



# AIR CONDITIONING AND REFRIGERATION

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## Inside Dope

By George F. Taubeneck

### Announcing a Book

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### Announcing a Book

Let's hope it won't be considered immodest of this department to announce that we have written a book just for you fellows.

It is entitled, "Great Day Coming!" It's a crystal-ball-gazing job done on the market picture for all the products you sell and service—or expect to—in the years which will follow on the heels of V-J Day.

Originally prepared for the private perusal of a small number of executives in the refrigeration, air conditioning, and household appliance field, "Great Day Coming!" has received such a gratifying reception that we decided to use some of our spare paper for printing a limited commercial edition.

The price is \$3 per copy, and we hope you get your order in early.

### Great Day Coming!

Big point to this book is our strong belief that all too little attention is being paid to the problems of distribution in current postwar studies.

Making stuff isn't going to be the big problem; selling products is.

Nor can industry employ anything like Henry Wallace's pulled-out-of-a-hat figure of 60,000,000 jobs. Selling and servicing will have to employ the bulk of the people who seek work in the postwar period.

How distribution organizations can grow and prosper and employ more returned veterans and displaced war workers after the war is the prime subject for analysis in "Great Day Coming!"

Herein we cannot, of course, treat the entire distribution field. We are concerned only with a group of adjacent sectors of the business scene. In these neighboring areas are located the interrelated industries of refrigeration, air conditioning, and home appliances.

### Who Should Read It?

Distribution organizations which find it necessary to go out of business or find new things to do when their supply of durable goods ran out comprise much of our slanted-toward audience.

Even more intently is this book written for the nation's men in uniform, men who will be eager to find satisfactory positions in civilian life, and for whom these related industries should afford extraordinary opportunities.

### Purposes of the Book

Twin aims of "Great Day Coming!" are:

(1) To bring the returning veteran and the returning dealer up-to-date on these industries, and;

(2) To point out through humanized market data, sales forecasts, suggested distribution methods, and sound advice from industry leaders, the paths down which they can chase toward a busy and amply-rewarded life in the 194x decade.

### Economic Angles

Reconversion and re-employment  
(Concluded on Page 5, Column 1)

## All Controls Over 'Freon' Revoked

WASHINGTON, D. C.—Conservation Order M-28 was revoked April 28 by WPB, which means that all controls on the production and distribution of "Freon-12" and "Freon-22" refrigerants are removed and no longer in effect.

"Freon" is thus now available for any type of refrigeration or air conditioning application.

However, WPB officials warned dealers, contractors, and owners of air conditioning and refrigerating systems that they should do everything in their power to assure the prompt return of empty cylinders. Failure to return such containers speedily may result in a shortage that will seriously affect shipments, it was said.

## Lehigh Foundries To Take Over M & E's Compressor Activity

EASTON, Pa.—Lehigh Foundries, Inc. has taken over the Merchant & Evans Co. Lancaster plant war production operation and its regular peacetime commercial refrigeration machine manufacturing business on a long term lease of facilities, and on an operating agreement under which Lehigh will conduct the business as the M & E Refrigeration Division of Lehigh Foundries, Inc., Easton.

Announcement of this plan was made in a joint statement by Thomas Evans, president of M & E, and Frank E. Shumann, president of Lehigh Foundries, Inc.

Merchant & Evans will continue to make a line of refrigeration coils and heat transfer units, which it will market nationally through the M & E Refrigeration Accessories Co.

As soon as conditions permit, Lehigh Foundries will produce and  
(Concluded on Page 29, Column 1)

## A. S. R. E. Moves N. Y. Offices

NEW YORK CITY — National headquarters offices of The American Society of Refrigerating Engineers, for the past three years located at 50 West 40th St. in New York, have been moved next door to 40 West 40th St., New York 18.

New furnishings have been acquired for the attractive new suite which occupies the twelfth floor of the American Radiator Co.'s skyscraper designed by the late Raymond Hood.

## Locker Plants Searched by OPA Staff; Slaughtering Rules Drastically Changed

WASHINGTON, D. C.—As the OPA launched a 10-point "attack on the meat black market," OPA agents in various parts of the country intensified their investigations of refrigerated locker plants in an announced effort to uncover illegally held frozen meat.

Investigations were reported "on" in Chicago, Detroit, Lansing, Mich., and Pontiac, Mich.

In Chicago, for example, it was reported that OPA investigators had found more than 300,000 pounds of meat stored in one locker plant, most of which had allegedly been purchased on the black market without ration stamps being surrendered.

The 2,000 lockers in this plant held an average of 150 pounds of beef, and all but a few of the owners had purchased the meat without giving

## CRMA To Offer Dealer Manual

CHICAGO — A "profit insurance policy" in the form of a Dealer's Manual which will cover the factors in successful sales and management operations in the field, will be made available to all commercial refrigerator sales outlets, in a plan approved at the annual spring meeting of the Commercial Refrigerator Manufacturers Association here late last month.

Operating ratios which will form an important part of the Manual will be derived from the profit-and-loss statements of selected commercial refrigerator dealers throughout the country. The work of collecting and analyzing the figures will be done by the Research and Statistical division of Dun & Bradstreet, Inc. Copies of the manual are expected to be available for distribution this summer.

The project represents the latest in a series of recommendations by the Association's Postwar Planning Committee. In urging acceptance of the Manual plan, W. B. McMillan, Hussmann-Ligonier Co., committee chairman, reminded his listeners that in the past the attitude of the average manufacturer toward his selling outlets was one of "letting them work out their own salvation." The time has come, he declared, for the manufacturer to assume his obligation to his dealers by doing everything possible to aid them in building a profitable business.

Other members of the committee who joined Mr. McMillan in presenting the report were J. H. Coolidge,  
(Concluded on Back Page, Col. 2)

## Emde, Lesley Named To Temprite Posts

DETROIT — Temprite Product Corp.'s board of directors has announced that Lud Emde has been named vice president, general manager, and a director of Temprite; and that P. Fred Lesley, has been named assistant general manager in direct charge of production, purchasing, and finance.

Mr. Emde, who had been 15 years with Worthington Pump & Machinery Corp. and Detroit district manager since 1938, succeeds the late John Wyllie, Jr. Temprite's new general manager is a graduate of the University of Michigan engineering school and is a member of the Engineering Society of Detroit and the Michigan Engineering Society.

Mr. Lesley, who has been secretary and treasurer of Temprite since 1932, having helped to organize the company in 1929, is a graduate of the Detroit Institute of Technology.

## How Ratings Apply On Machines, Coils

The April 23 issue of the News carried the story of the revocation of the ratings under Order P-126 for the purchase of new condensing units and low side assemblies.

On page 4 of this issue is an explanation of how ultimate users can apply ratings under CMP Regulations 5 and 5A, and how they can apply for ratings on Forms WPB-1319, WPB-617, and GA-1456.

## Corrected Instruction Given on Procedure For Deferments

WASHINGTON, D. C.—The information on the certification for deferment from military duty of refrigeration repairmen under 30 years of age, contained in a telegram sent out by the National Refrigeration Service Council and published in the April 23 issue of AIR CONDITIONING & REFRIGERATION NEWS, was in error on certain points, officials here declared last week.

The National Council has made a correction in the form of a telegram to Local Councils which states that regional and district WPB managers have been instructed by WPB headquarters as follows:

"The inter-agency committee has approved an exception to the 15% quota restriction for application in the handling of certifications on lists containing seven names or less. Based upon strict application of the standards of eligibility for certification as set forth in our instruction of Feb. 20, you may, effective immediately, certify one man on lists containing three names or less, and you  
(Concluded on Back Page, Col. 1)

## Superior Promotes Newcum, Siegfried

PITTSBURGH—Additional responsibilities have been assigned to K. M. Newcum, formerly vice president in charge of sales, and Willis A. Siegfried has been named sales manager of Superior Valve & Fittings Co., announced J. S. Forbes, president, at the start of the company's eighth year of operations recently.

Mr. Newcum is now vice president in charge of engineering, development, and quality control. Mr. Siegfried, who has been assisting Mr. Newcum for some time in the sales department, now will be responsible for sales policies and advertising of the company.

## Mich. Locker Assn. May Fight Search Methods In Court

LANSING, Mich.—Stung by implications of black market meat operations in publicity arising from current widespread investigations of locker plants by OPA, members of the Michigan Frozen Food Locker Association last week climaxed a two-day conference at Michigan State College here by voting to retain and finance legal counsel for clarification of rights, and protection, of Association member-operators in contacts with OPA.

The moves came on the heels of an announcement that the OPA is currently planning to inaugurate use of a new multi-page form covering transfer of all rationed meats to operators from patrons, and requiring the answering and certification of more than a score of questions by  
(Concluded on Page 29, Column 2)

## Nazi Collapse Hurries WPB's Civilian Plans

### Refrigerators, Washers To Have Priorities For Reconversion

WASHINGTON, D. C., May 3—With V-E Day apparently only a few days, possibly a few hours away, WPB officials here are moving rapidly to prepare for a one-war economy and to speed reconversion of many plants back to civilian production.

Specific priority assistance for the manufacture of household refrigerators, washing machines, and some other scarce civilian items will be made available, WPB officials indicate.

Just how quickly things are likely to move after war with Germany ends can be assumed from statements made here, particularly those of J. A. Krug, WPB chairman.

During the next four months, approximately a third of WPB's L and M orders will probably be revoked, whether V-E Day comes before that time or not, Mr. Krug told a House committee recently.

The shift from a two-war basis to a one-war setup will probably involve four to six months, according to estimates of WPB. If V-E Day comes before May 15, the transition will require until about Sept. 20, but if V-E Day does not come before July 1, this period will probably last until the end of the year, it was said.

Several moves toward reconversion, or at least revocation of WPB limitations, have already been announced.

On April 29, for example, WPB announced that it had lifted the ban on "spot authorizations" for civilian items in Group I and II labor areas, which had been imposed Dec. 1.  
(Concluded on Page 29, Column 3)

## Commercial Firms Get 120 Spot Okays

WASHINGTON, D. C.—By April 30 more than 120 applications to produce commercial refrigeration items for the civilian market under the PR-25 "spot authorization" plan had been granted, it was learned here last week.

The total grants represent about \$37 million in commercial refrigeration equipment, the average grant being \$292,000. It is believed that the total number of "units" of equipment involved would be around the 100,000 mark.

Officials are to be considering a plan whereby dealers might get a floor stock inventory without a rating.

## Angus Heads Reorganized Sunroc Sales Department

GLEN RIDDLE, Pa.—Reorganization of its sales department with Richard A. Angus, formerly production manager, as sales manager, has been announced by Sunroc Refrigeration Co., manufacturer of drinking water coolers here.

Three district sales for the Sunroc line have also been announced: O. E. Zimmerman in the West, George Morrison in the South, and Marion Dougherty in the East. M. M. Rourke will be assigned exclusively to government accounts.

The new sales manager, Mr. Angus, has a marketing and promotional background covering 10 years, having served in the sales division of the Curtis Publishing Co. prior to the war.



HAVE YOU EVER  
WATCHED THE PLEASURE  
OF A HOUSEWIFE  
AS SHE ADMIRES HER  
STAINLESS STEEL  
CUTLERY? SHE WILL  
HAVE THE SAME LOVE  
FOR STAINLESS STEEL  
REFRIGERATOR SHELVES



## WALL WIRE PRODUCTS COMPANY

11333 GENERAL DRIVE  
PLYMOUTH, MICHIGAN

Makers of STAINLESS STEEL AND  
BUTYRATED REFRIGERATOR SHELVES AND WELDED WIRE PRODUCTS

## Restriction on Sales of Surplus and Excess Materials Eased by Change of P. R. 13

WASHINGTON, D. C.—Restrictions on sales of surplus, idle, or excess materials were liberalized recently by WPB. The action was taken through a revision of Priorities Regulation No. 13, which deals with such sales.

One of the results of this move is that sellers may now make sales to newcomers, such as returning veterans, who want to establish wholesale or retail businesses. Previously, these kinds of sales required special permission from WPB.

However, the revision provides that where a seller doesn't know what a buyer is going to do with the material he purchases, he may protect himself by getting a certification from the buyer that will establish either:

- (1) That he is a producer of the material or product he is buying; or
- (2) That he is a reprocessor of it; or
- (3) That he will in good faith offer it for sale in substantially the same time and manner as would a person regularly dealing in these materials or products; that he will render substantially the same type of service as would such a person, and that he will comply with all applicable WPB regulations and orders; or
- (4) That he is buying it for use and not for resale and will use it in compliance with all applicable WPB regulations and orders.

In the case of certain critical items for domestic use the certification is limited to point three. Regular

wholesalers or retailers could have always been able to buy without preference ratings or other authorizations.

Any person giving such a certification must comply with all applicable WPB regulations and others as he has certified he will. In this connection, the standard certification provided in Priorities Regulation No. 7 (Certifications on purchase orders and other documents) may not be used in place of this certification, WPB said.

However, WPB made clear to sellers that they cannot sell materials acquired with priorities assistance if they can still be used for the purpose for which the assistance was given.

At special sales, preference ratings held by the buyer do not oblige a holder to sell. However, if he sells at all, and the buyer properly gives a rating, the seller must honor it to the extent required by Priorities Regulation No. 1.

For example, if two or more bidders at a public auction offer the same terms for any lot of materials or products, the seller must prefer the bidder who supplies the highest preference rating. Regardless of whether the sale is at auction, a holder need not give preference to a higher rated purchaser if a lower rated purchaser offers better terms that are not in violation of applicable OPA regulations.

Technical changes in the regulation include:

(1) Modification of the definition of "special sales." This has been changed so that the regulation applies to sales by persons who acquire or make the materials or products for use and not for sale or resale. The proposed revision will still cover sales at public auction, liquidation sales, and surplus sales by Government agencies; it will still exclude sales by persons regularly engaged in the business of selling the material.

(2) Insertion of a provision that deals with sales through an agent.

(3) The removal of chemicals from List A (relating to domestic sales) of the regulation and the addition of a provision stating that even though a special sale may not be restricted by this regulation, the buyer may have to get permission to use the chemical under the applicable M-Order unless the small-order exemption applies.

(4) A few other materials that were unrestricted were taken off since the list imposed no restrictions on their sales.

## Aluminum, Copper Hit In CMP 4 Revisions

### Specific Authorization Needed on Z-1E Sales

WASHINGTON, D. C.—A series of amendments to Controlled Materials Plan Regulation 4, which defines the operation of preference ratings under the controlled materials plan, has been announced by WPB.

The present blanket permission to sell certain types of aluminum and copper materials on Z-1E orders is replaced by provisions requiring specific authorizations before sale.

War Production Board officials said this would make it possible to prevent disposition of certain critical items, particularly stranded copper wire, on Z-1E orders and at the same time free idle and obsolete stocks that cannot be disposed of otherwise by warehouses.

A limitation on the total amount of aluminum that can be obtained from all warehouses also is added to the order. It provides that no person may place orders for delivery from warehouse stock in any one month that aggregate more than 10,000 pounds of sheet, strip, or plate; 4,500 pounds of wire, rod, and bar, or more than 3,000 pounds of tubing, extrusions or structural shapes.

Individuals are limited to 2,000 pounds of sheet, strip or plate, 900 pounds of rod, bar and wire, and 600 pounds of tubing, extrusions or structural shapes for delivery at any one time to any one destination. Acceptance of delivery in excess of these amounts is also prohibited.

The limitation, however, does not apply to the resale of aluminum obtained by warehouses from surplus inventories under the provisions of Priorities Regulation 13 or WPB Directive 16.

WPB officials said these provisions were necessary because the difficulty that has been experienced in getting orders placed on mills has resulted in extreme demands being made on warehouse stocks. They are designed to permit adequate warehouse purchases and at the same time prevent abnormal demands on warehouse stocks during this critical period, WPB officials said.

By another amendment to CMP Regulation 4, the carry-over provisions are changed to prohibit the filling of a steel order more than 60 days after the end of the quarter for which the allotment was issued. No time limitation had been imposed hitherto where an order was accepted within the quarter for which the allotment was issued, the change being made to discourage advance ordering under the provision.

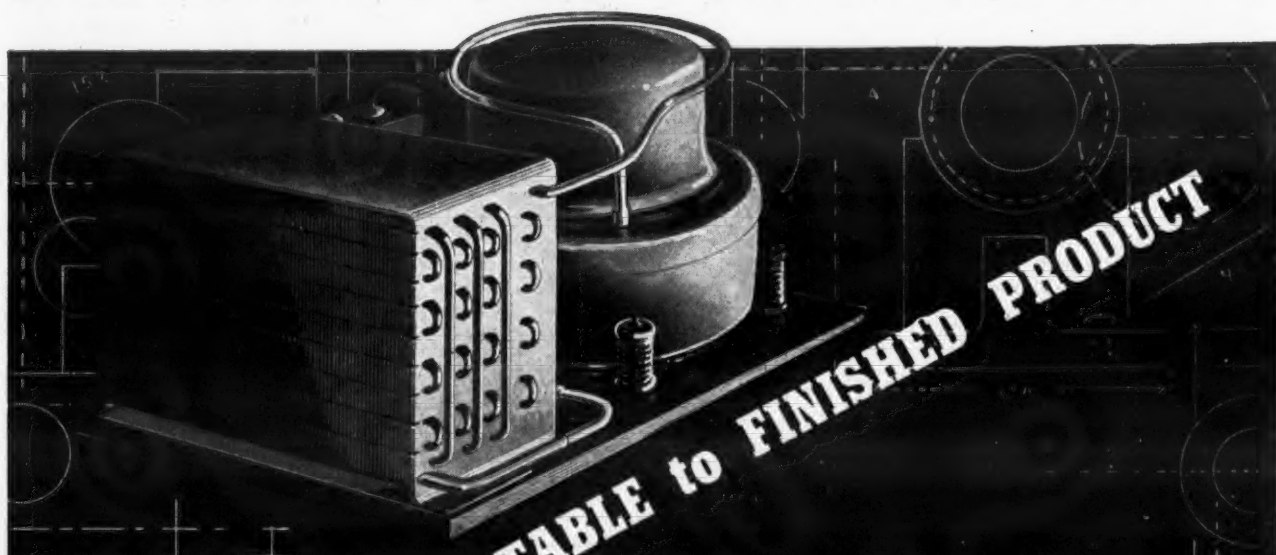
In addition, the small free steel provisions affecting stainless steel are reduced from 1,000 to 300 pounds and deliveries on Z-1E orders are restricted to steel in inventory more than 120 days. By the terms of other amendments the definition of "distributor" as used in the order is broadened to include scrap dealers; the requirement for certification on Z-1E orders is more clearly stated, and a new paragraph is added to the order to clarify the extent to which warehouses may deliver material on toll agreements.

## Cowan To Head Wesco Northwest Farm Sales

CHICAGO—William S. Cowan has been appointed farm sales manager of the Northwestern District of Westinghouse Electric Supply Co. with headquarters at Chicago, reports Henry Czech, Northwestern district manager.

Mr. Cowan's experience in the farm implement field has been extensive. He has been with Sears, Roebuck & Co., Thordarson Electric Co., and Montgomery Ward & Co.

## ALL-PURPOSE ENGINEERED



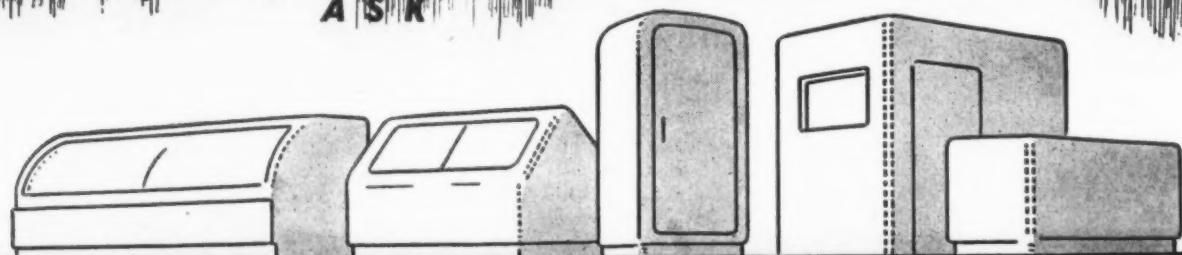
FROM DRAFTING TABLE TO FINISHED PRODUCT

Design of Universal Cooler hermetic refrigerating units is planned and engineered to insure trouble-free operation. This exclusive vertical design minimizes bearing wear and provides a constant motor air-gap that assures peak efficiency and lowest operating costs.

Furthermore, design is but one of the "controlled factors" that contribute to the outstanding performance of Universal Cooler new units. Materials, lubrication and operation are other factors you'll want to know about.

WAR BONDS  
Your stake in America's  
future—and your own.

LET'S ASK UNIVERSAL COOLER



# UNIVERSAL COOLER

UNIVERSAL COOLER CORPORATION • Automatic Refrigeration since 1922  
MARION, OHIO • BRANTFORD, ONTARIO

## AT YOUR SERVICE

In addition to the sales and service offices maintained in principal cities, Acme offers the services of a thoroughly competent engineering staff at the factory. Tough or unusual problems arising in the field may be referred to this headquarters engineering department for solution and practical recommendations. No obligation... it is our business to be of service to the industry. Write us... we'll be glad to hear from you.

Refrigeration and air  
conditioning products  
backed by 26 years  
experience.



FREON  
CONDENSERS  
OIL SEPARATORS  
LIQUID RECEIVERS  
HEAT EXCHANGERS  
AMMONIA CONDENSERS  
DRY-EX WATER COOLERS  
HI-PEAK WATER COOLERS  
FLOODED WATER COOLERS  
EVAPORATIVE CONDENSERS  
FORCED CONVECTION  
UNITS  
PIPE COILS

Write for Catalog  
on any item.



Tech





## "What's cookin'" for Frigidaire Dealers . . . in Frigidaire's Home Economics Department?

**The answer is—Plenty!** And the hundreds of research projects in Frigidaire's Home Economics Department all boil down to three vital objectives—

**Wartime Homemaker Aids**, such as the popular booklets, "Wartime Suggestions" and "101 Refrigerator Helps," more than 11 million copies of which have been printed . . . the Frigidaire-General Motors film, "How to Get the Most Out of Your Refrigerator," already seen by more than a million persons.

**Better Products** . . . as Frigidaire Home Economists work with Frigidaire Engineers to develop better and better Frigidaire refrigerators, ranges, home freezers, other home appliances.

**Easier Sales**—the result of ever-better products, and of such activities as:

- Constantly experimenting to make Frigidaire products even more useful. For example, the frozen-food research conducted by Frigidaire Home Economists.
- Bringing this valuable information to users through instruction booklets, advertising, magazine and newspaper articles, demonstrations, meetings.

• Helping to maintain Frigidaire prestige in the home appliance field. In the past 12 months scores of home economists, food editors, and other leaders in nutrition have visited Frigidaire's Home Economics Department. Numerous magazine and newspaper articles based on these visits have been printed, helping to keep Frigidaire in the public mind as the *authority* in the home appliance field.

### Home Economics Leadership—and Frigidaire Dealers

Leadership creates leadership. Frigidaire's leadership in Home Economics Research is resulting in much-appreciated homemaker aids now, and in better products for Frigidaire Dealers to sell more easily in the future. This is one more reason why Frigidaire Dealers will continue to enjoy . . . *Leadership in Selling!*

**BUY AND KEEP MORE WAR BONDS!**

**Look to Frigidaire  
for leadership  
in . . . HOME ECONOMICS!**

For Excellence



**FRIGIDAIRE**  
Division of  
**GENERAL MOTORS**  
DAYTON 1, OHIO • LEASIDE 12, ONTARIO

Peacetime builders of

REFRIGERATORS • RANGES • WATER HEATERS  
HOME FREEZERS • ICE CREAM CABINETS  
COMMERCIAL REFRIGERATION • AIR CONDITIONERS  
BEVERAGE, MILK, AND WATER COOLERS



## District Manager



AUSTIN JONES

### Jones Heads Kerotest Toledo Area District

PITTSBURGH—Austin Jones, formerly research and development engineer of the Kerotest Mfg. Co., has been named Toledo district manager with headquarters at 1743 West Central Ave., Toledo.

Mr. Jones will supervise Kerotest sales in the Ohio, Michigan, Eastern Indiana, and Central Kentucky areas.

Mr. Jones is widely known as one of the industry's most avid "camera fans."

## Authorizations Assigned For 57,816 Electric Ranges

WASHINGTON, D. C.—Assignment of authorizations for production of 57,816 additional domestic electric ranges during the second, third, and fourth quarters of 1945 was reported recently by the War Production Board. Standard size four-burner ranges are authorized to the amount of 44,816, and the remaining 13,000 will be three-burner apartment-type ranges.

All these stoves will be equipped with automatic temperature controls, but none will have deluxe features such as timers. Lamp installation on the stoves is authorized only when manufacturers already have such equipment in their inventories.

About two-thirds of the range production authorized recently is expected to be available to institutions and individual consumers who certify need for use to existing electric service facilities. The remainder is

intended for the military services and for housing projects approved by the National Housing Agency.

The manufacturers and their authorizations are shown in table below.

WPB's domestic electric stove program for 1945 allows production of 140,000 ranges for the year, at the rate of 35,000 ranges a quarter. Manufacture is authorized only when the use of materials, components, manpower, and facilities will not hamper the war effort.

The effect on manpower of the military situation in late December, 1944, in the areas in which ranges are manufactured has resulted so far in production below that authorized under the 1945 program, WPB said.

In 1944 approximately 60,000 domestic electric ranges were produced, a substantial proportion of which were made available for essential civilian use.

	2nd quarter	3rd quarter	4th quarter
A-B Stoves, Inc., Battle Creek, Mich.			
3-burner models	6,000	4,000	2,000
4-burner models		2,000	4,000
Malleable Iron Range Co., Beaver Dam, Wis.			
3-burner models		500	500
4-burner models		3,250	3,250
Gibson Refrigerator Co., Greenville, Mich.			
4-burner models	2,832	2,832	2,832
A. J. Lindermann & Hoverson Co., Milwaukee			
4-burner models	775		
Newark Stove Co., Newark, Ohio			
4-burner models	3,015	3,015	3,015
Norge Division, Borg-Warner Corp., Effingham, Ill.			
4-burner models	3,000	3,000	3,000
Roberts & Mander Stove Co., Hatboro, Pa.			
4-burner models	4,000	4,000	4,000

## Ratings That May Now Be Used For Systems

Under what conditions can new condensing units and low side assemblies (such as unit coolers) be obtained now that the recently issued Direction 1 to Order P-126 prohibits the use of ratings under that order to get such new equipment?

The only way such new equipment is obtainable is by the extension of a priority rating applied by some ultimate user of the refrigeration equipment, who has properly rated

his order, or who has been given a rating upon application.

Such customers' ratings may originate from CMP Regulation 5 and 5A for installations permitted under Paragraph (d) of Order L-38, or from ratings assigned on Forms WPB-1319, WPB-617, or GA-1456.

Let's examine the exact conditions under which condensing units and low side assemblies may be obtained under each of these various orders.

### 'MRO's' Under CMP Regulation 5

CMP Regulation 5 is the "Maintenance Repair and Operating Supplies Order," providing specific ratings for such supplies for specific types of businesses.

Under Schedule "A" of this order an AA-1 rating can be applied by "Industrial food manufacturing, processing, packaging, preservation, and storage (except soft drink and alcoholic beverages and chewing gum). Restaurants, hotels, retail stores, and farms are not included in this category."

There are also many industrial plants that will qualify for an AA-1 or AA-2 "MRO" rating under this order.

However, Order L-38, the general refrigeration and air conditioning limitation order, places a further restriction and interpretation on the use of blanket MRO ratings. Paragraph (d) of the Order states:

"(d) Restrictions on use of blanket MRO ratings; exceptions to this rule. (1) The blanket MRO ratings assigned by CMP Regulations 5 and 5A or any other regulation, may not be used to get any new system, condensing unit (with or without motor or controls), compressor unit, low side, evaporator, cold storage door, insulated enclosure, or any reconditioned system containing a new condensing unit, or containing a new compressor unit, unless it is needed

to replace equipment of substantially the same size or capacity which has become worn out or damaged beyond repair while in the purchaser's possession and unless he has had it at least 90 days. In addition, no blanket MRO rating may be used to get any new parts to enlarge the size or capacity of any used or reconditioned system or to improve its design or change its function. If new equipment is needed for the purposes prohibited under these rules, it should be applied for in accordance with Paragraph (e).

"(2) The restrictions in (d) (1) above do not apply to the use of AA-1 blanket MRO ratings assigned by CMP Regulation 5 or 5A or any preference ratings order, providing the equipment is to be installed and operated in the production area, cafeteria or restaurant of an industrial plant (excluding offices, recreation rooms, conference rooms, drafting rooms, first aid rooms, change and rest rooms, and dispensaries)."

This seems to make it pretty clear as to who can apply MRO ratings. Food processing and storage plants CAN; retail stores and restaurants CAN'T. Industrial plants can apply ratings for refrigeration equipment used in the production area or in plant eating facilities. Equipment to be replaced must be worn out or damaged beyond repair.

### Applications on Form WPB-1319

How else are ratings obtained for condensing units and low side assemblies? Order L-38 gives a clue, in Paragraph (e).

"(e) How to apply for ratings. (1) When an ultimate consumer needs a new system or few parts and may not use his MRO rating to get them, he should apply on Form WPB-617, or other appropriate construction form when permission for construction is required. Form WPB-1319 should be used in all other cases."

What are the cases in which Form WPB-1319 should be used? That's been pretty well settled by WPB.

There are a number of applications in industry which may be approved when requested for industrial, mining, scientific and technical processes and operations where temperature, humidity, or dust control are necessary for production, storage, transportation, operation, or repair of materials or products. Some of these are:

- Production of abrasives
- Production and repair of airplanes and parts
- Airport control tower
- Altitude and low temperature test chambers and laboratories
- Production, storage, and transportation of blood plasma
- Blast furnace production
- Ceramics production
- Production of chemicals
- Processing, storage, dispensing, and transportation of dairy products
- Processing and storage in duplicating processes including photographic, photostatic, and lithographic Communications products
- Production and storage of photographic films for military purposes

Storage of fur cloth for military purposes

Production of non-shatterable glass

Production and storage of ice

Research and testing laboratories

Production and storage and repair of optical goods

Ordnance production, especially precision parts

Production and storage of parachutes and balloons

Production, storage, and transportation of pharmaceuticals, drugs, and biological products

Production, transportation, refining, and marketing of petroleum products

Production, storage, operation, and repair of precision instruments, tools, or products

Production of synthetic critical products

Engine test cells and

Processing, storage, dispensing, and transportation of foods.

To get approval for new refrigeration condensing units or low side assemblies for food storage and dispensing applications on WPB Form 1319, the applicant must prove to the satisfaction of the priority processors that the existing equipment is so worn out or damaged as to be beyond repair, or that the expansion of an existing system or installation of a new system is necessary because the present facilities won't handle the work adequately, and food losses might result.

Systems for cooling drinking water may be approved for hospitals or industrial plants, provided the applicant is entitled to AA-1 or AA-2 under any blanket regulation and providing the inlet water temperature is in excess of 70° F.

Member of the National Refrigeration Supply Jobbers Association

Your refrigeration parts and supply house in Central New York and Northern Pennsylvania

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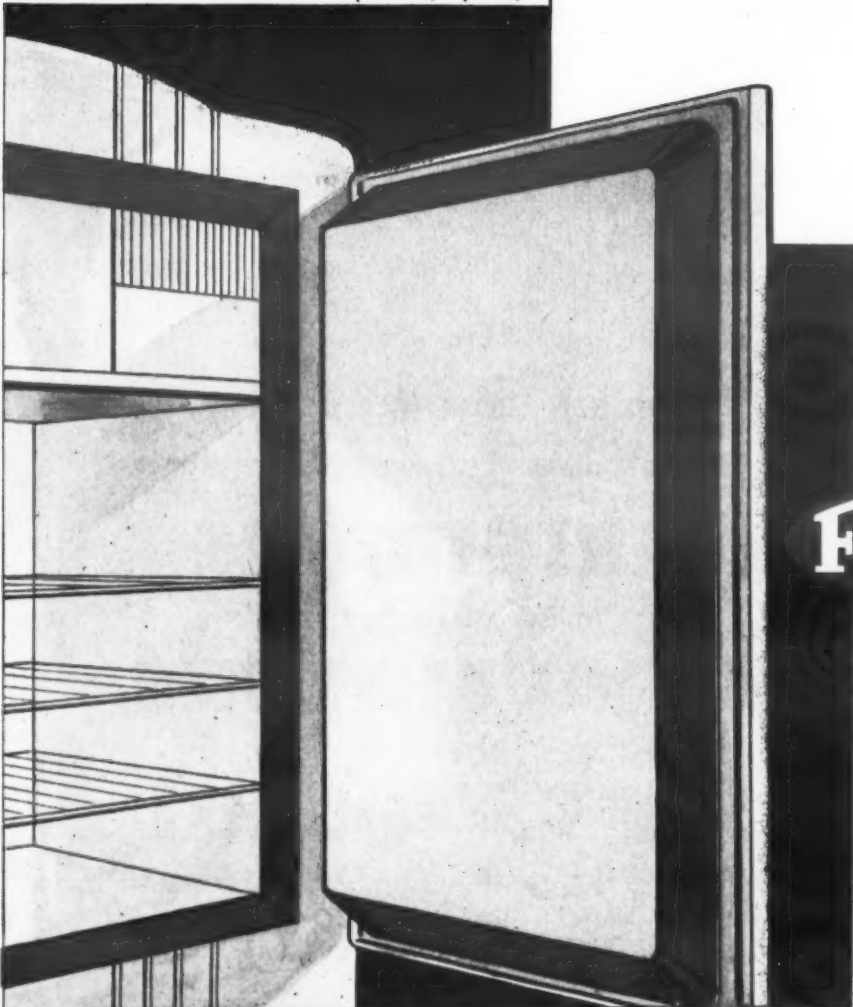
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### HELP IDENTIFY YOUR PRODUCT AS POST-WAR

Formica laminated plastic breaker strips in color are new, and help stamp your refrigerator model as post-war.

The quality is the same as the black Formica strips which are so smooth, so easily cleaned, and which stand frequent rigorous cleaning. The colored strips provide an efficient thermal break. They are not stained by condensation. They are installed the same as black strips, but they provide one more touch of beauty.



FORMICA

THE FORMICA INSULATION COMPANY

4613 Spring Grove Ave. Cincinnati 32, Ohio



# Inside Dope

By George F. Taubeneck

(Concluded from Page 1, Column 1)

will soon be the two biggest words in our language. Terrifying to many, stimulating to a few, these words are the key to our future. Will private enterprise make good on its "last chance," and can we in the United States successfully resist the ominous tide of Statism which is rolling over the world?

It all depends on how well we solve the reconversion and re-employment problems. They are twin dilemmas.

Nearly everybody agrees that the consumers durable goods field has the best chance of leading the nation to rapid recovery after the war.

Furthermore, refrigeration, air conditioning, and home appliances are expected to be the bell-wethers of the consumers goods flock.

So this book is devoted to an appraisal of that formidable section of the consumers durable goods field, and is particularly concerned with the distribution side of that picture.

Most studies of reconversion deal only with the change-over problems of factories; whereas it is our contention that these production problems are not half so important as those related to selling the products after they are made.

## What Must We Look Out For?

It is the purpose of this book to show the prospective dealers and salesmen of consumers durable goods what they are up against, what their opportunities are, and how they should go about the job—if they decide to invest in this highly promising business.

First, the general business climate to be expected after the war is discussed, because these overall conditions will have their effect on each individual small business.

Second, the changing distribution pattern is treated, and the best advice obtainable for prospective (or returning-to-the-fold) dealers is presented.

Third, the postwar market for each of the several products is assayed, utilizing the results of many highly expensive surveys made by manufacturers, associations, government agencies, and AIR CONDITIONING & REFRIGERATION NEWS, the leading publication covering this broad field.

Finally, the high-opportunity "fringe" merchandising fields are considered, and marked with guideposts for the ambitious returning dealer or serviceman.

It's a highly specialized book written for a highly specialized form of commercial endeavor.

But on the success of that

endeavor may rest the hopes of democracy's survival in a grim world which appears to be turning its head away from Liberty back toward the Dark Ages of medieval serfdom and totalitarianism.

## Final Word

We cordially hope you'll find "Great Day Coming!" profitable, interesting, and worth passing on to others in your organization.

There won't be enough copies to go around.

## Inventors Still At It

Two new patents will interest the specialty appliance industry. One, taken out by Frank W. Scharf of Elgin, Ill., relates to an electric iron which has a built-in fan. Idea: to keep air circulating above the ironing board. This patent (No. 2,373,345) has been assigned to the McGraw Electric Co.

Second patent (No. 2,373,361) embraces an electronically controlled method of separating the lean meat from the fat. After a roller has

prepared the meat for trimming, a photo-electric cell guides a knife which automatically cleaves along the lines between the fat and lean portions of the meat (lean meat is darker).

Industrial Patents Corp. owns this patent. Charles T. Walter of Chicago is the inventor.

Many are the wonders to come.

## Okay by Us

William Feather reports that he recently wrote an editorial in praise of a tasty bread called "Ice box Rye."

A reader replied that she always keeps the breadbox in her refrigerator, with the result that the bread is never stale. That sounded all right to Feather until he heard from a man who puts cigars in his refrigerator to keep them fresh.

"Where does this thing end?" he asks. "It appears that the house of the future will have to have a larger kitchen, equipped with three or four refrigerators. Or perhaps there will be one in every room, designed to look like a radio and stained to match the furniture."

## WRITE FOR CATALOG



Due to the paper shortage we will not issue a catalog in 1945

SERVICE PARTS CO.  
2511 Lake St. Melrose Park, Ill.

# NOTICE!

# AMCOIL NEW LOW PRICES

**JOBBER and DEALERS!**  
Handle the money-making AMCOIL line in your area. Write today for details of our attractive line of cooling units—a few localities are still open to qualified jobbers.

## A RARE COMBINATION

The highest quality at Lowest prices

Improved manufacturing methods and automatic machinery have enabled us to reduce prices on all Amcoil units.

Prices effective as of April 1, 1945 and supersede all previous lists. They are subject to change without notice.

COMPARE OUR QUALITY — DESIGN — NEW INVENTIONS — IMMEDIATE DELIVERY

## FOOD CONDITIONER COOLING UNIT

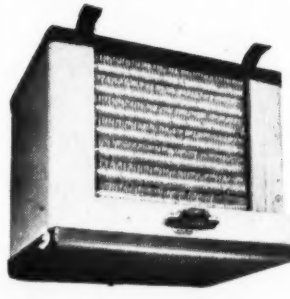
Automatically preserves foods without dehydration. Temperatures from 36° to 40° F. For reach-in and walk-in coolers.



MODEL	BTU/HR 15° MTD	LIST PRICE
RIF 38	4,600	\$270.00
RIF 43	5,500	283.00
OCF 56	6,500	290.00
OCF 82	9,200	325.00
OCF 126	13,000	350.00
OCF 146	19,500	390.00
FC 50	7,500	333.00
FC 80	11,300	378.00
FC 130	17,000	601.00
FC 160	22,600	641.00

## ALSERVICE OPEN FACE UNIT

For efficient cooling and serves as a general utility unit in preserving foods where a forced draft cooling unit is required. Streamlined, in attractive grey and black colors, it produces temperatures down to 36° F.



MODEL	BTU/HR 15° MTD	LIST PRICE
OC 44	4,000	\$120.00
OC 48	5,100	148.00
OC 58	7,500	161.00
OC 84	11,000	210.00
OC 128	15,500	322.00
OC 168	23,000	370.00

## ZERO-BREEZE LOW TEMP UNIT

A low temperature unit equipped with automatic electric defrost . . . wall-mounted model . . . produces temperatures from +20° F. to -20° F. . . defrosts automatically on each off-cycle of condensing unit.



MODEL	BTU/HR 10° MTD	LIST PRICE
RZB 60	3,900	\$325.00
ZB 120	7,250	425.00
ZB 150	11,000	613.00
ZB 180	14,500	655.00

## ALSERVICE REACH-IN PANEL UNIT

A compact cooling unit for all utility refrigeration applications. Designed to meet a growing demand for medium capacity units to balance condensing units of 1/4, 1/2, 3/4 or 1 HP. Especially adapted for reach-in and small walk-in boxes.



MODEL	BTU/HR 15° MTD	LIST PRICE
RI 15	2,000	\$ 94.00
RI 25	2,250	99.00
RI 30	3,000	114.00
RI 40	5,250	149.00
RI 45	6,150	169.00

## ALSERVICE DOWN-DRAFT UNIT

An efficient, down-draft cooling unit employing new ideas in refrigeration. . . May be converted to controlled humidity Food Conditioner by adding the control assembly package.



MODEL	BTU/HR 15° MTD	LIST PRICE
UC 63	8,000	\$211.00
UC 100	12,500	261.00
UC 123	17,500	477.00
UC 200	24,000	517.00

Each of these AMCOIL models are now available and can be purchased from your jobbers' stock, or can be shipped from our factory. Please enclose priority MRO or AA5 under limitation order L38 with your order. READY FOR IMMEDIATE DELIVERY.

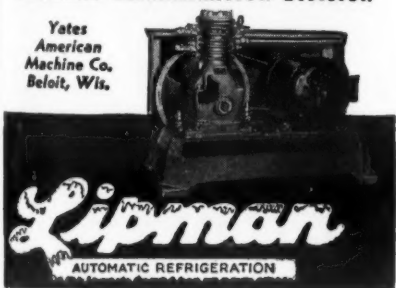
LICENSED UNDER  
Grant Color Patent  
Patent Pending

## WAR INDUSTRIES NEED REFRIGERATION

The use of refrigeration in industry has been greatly accelerated by the war. In peacetime this expansion may logically be expected to continue. Write for literature.

### GENERAL REFRIGERATION DIVISION

Yates  
American  
Machine Co.  
Beloit, Wis.



## NATIONALLY ENDORSED

Pad is adjustable to all makes and sizes of refrigerator cabinets; thoroughly protects finish of cabinet from scratches and marks during moving; easily and quickly put on or off; sturdy, lasting construction; easily pays for itself in a short time. Price \$11.75 each.

Attractive lettering of your name on pad at \$2.00 each extra.

For carrying your refrigerator more safely and easily, use the Mastercraft Adjustable Carrying Harness which is a separate unit from the pad and priced at \$2.50 each.

Write for complete folder and prices on pads for refrigerators, washers, ironers, ranges, radios; also furniture pads and protective covers. . . All prices subject to change without notice.

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Incorporated 1921

3815-3825 Cortland St., Chicago 47, Illinois

MANUFACTURER'S REPRESENTATIVES  
John J. Madden, 212 Madison St., Dedham, Mass.  
J. E. Oliphant & Co., 505 Uhler Bldg., Marion, Ohio  
Richard Barthelme Sales Co., 1711 Challen Ave., Jacksonville, Fla.  
F. M. Eversden & Associates, 220 So. 16th St., Philadelphia 2, Pa.  
Jordy Engineering Co., Inc., 813 Howard Ave., New Orleans 13, La.  
P. J. Burrill, 800 North Clark St., Chicago, Ill.  
Robbins-Greenwood Co., 3104 Main St., Houston 4, Texas  
The Mac Silver Co., 114 No. Sweetzer Ave., Los Angeles 36, Calif.



AMERICAN COILS CO.

25-27 LEXINGTON STREET - NEWARK, N. J.

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*Sweet Dreams*  
FOR  
**FARM FAMILIES  
EVERYWHERE**

**BEN-HUR FARM AND HOME FREEZERS**

FORWARD-LOOKING families plan to include a BEN-HUR Farm & Home Freezer in their post-war budgets. All the family looks forward to enjoying home-grown vegetables, fruits, meat and poultry months after they have been frozen and stored . . . banking substantial food savings . . . avoiding extra shopping trips.

YOU can make these post-war dreams come true for your customers — and cash in on a tremendous future market — with BEN-HUR Farm and Home Freezer.

GET ON OUR LIST to receive full information—as soon as this data becomes available.



**BEN-HUR MANUFACTURING CO.**  
634 EAST KEEFE AVENUE • MILWAUKEE 12, WIS.

**BEN-HUR** FARM & HOME FREEZERS

**It has all the "makings" of a refrigerated wall or shelf**

Alcoa Aluminum tubing and sheet provide excellent heat-conducting properties, light weight, fine appearance, and long life. Furnace brazing joins the tubing to the sheet intimately and securely, making the assembly quickly and inexpensively.

What a combination for any manufacturer of refrigeration or air-conditioning equipment!

Men interested in determining what

Alcoa Aluminum and brazed assemblies like this will do for their products can obtain metal for experimental purposes. We'll tell you how. Write ALUMINUM COMPANY OF AMERICA, 1975 Gulf Building, Pittsburgh 19, Pennsylvania.



Taking an aluminum tubing-to-sheet brazed assembly from the furnace.

**ALCOA** ALUMINUM

ALCOA

## Hills Named Director Of Electric Institute

WASHINGTON, D. C.—William G. Hills was elected managing director of the Electric Institute of Washington at a meeting of the Board of Directors of the Institute. He succeeds John S. Bartlett, managing director since the organization of the Institute in 1934, which position he recently resigned to become assistant commercial manager of the Potomac Electric Power Co. of Washington, D. C.

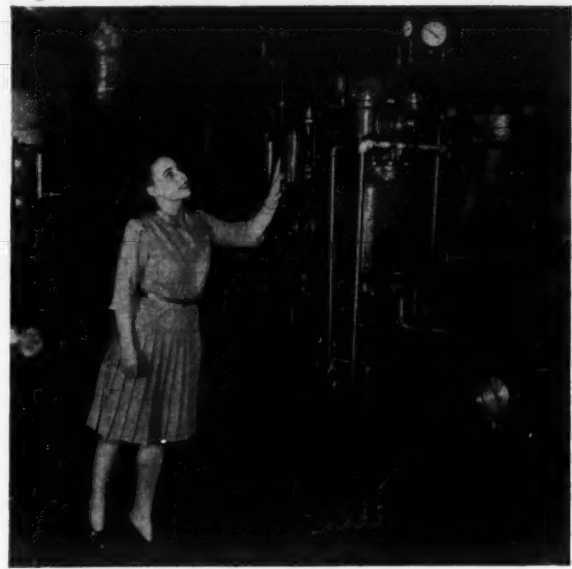
For eight years Mr. Hills was associated with the Retail Merchants Association of Columbus, was Secretary of the Electric League of Columbus and joined the Washington Institute in 1935. Two years later he became Public Relations Director of the American Bottlers of Carbonated Beverages. In 1944 Mr. Hills returned to the Electric Institute of Washington as Assistant Managing Director.

## Nash-Kelvinator Net Up In First Quarter

DETROIT—Nash-Kelvinator Corp. reports for the quarter ended March 31, 1945, a net profit of \$510,258 after all charges, including provision for income tax. This compares with \$491,064 for the same period of the preceding year.

For the first six months of the current fiscal year, which ended March 31, 1945, net profit is \$1,029,425.

## Chilled Water System Does Dual War Plant Job



In Chevrolet's plant at Tonawanda, N. Y., refrigerating equipment provides chilled water to help regulate the temperature of engine oil and air in test cells at the plant where Pratt & Whitney aviation engines are put through their paces.

## 2,000-Ton System Conditions Air For Test Cells, Chills 'Run-In' Oils at Chevrolet Aircraft Plant

TONAWANDA, N. Y. — Proper testing of Pratt & Whitney aircraft engines at the Chevrolet aviation engine plant depends in part on a 2,000-ton refrigeration plant to cool air and engine lubricating oil, it is revealed by Chevrolet officials.

To provide proper conditions in the huge test cells, air must be of the correct density. During the summer the cooling plant operates at peak capacity, cooling air which is brought into the test cells from the roof in volume exceeding 16,000 pounds. The outside air may be more than 100° F. during the summer and must be cooled to about 80° to achieve the best density, it is said.

The refrigeration system is also employed to cool oil entering the aircraft engines on test, but this operation also requires a heating plant.

When in the first stage of testing, the engines run at less than 1,200 r.p.m., with entering oil between 161° F. and 167° F. At this speed oil normally comes out of the engine at about 150° and must be heated to the desired entering temperature.

In later stages of testing engine speeds range from 1,500 to more than 2,000 r.p.m., and engine oil temperatures rise proportionately. Under test conditions the refrigerating plant cools the recirculating oil to specified entering temperatures.

Heating and cooling of the oil are automatically controlled by thermostatic air pressure valves which open and shut at predetermined temperatures, sending the oil through either heating or cooling tanks as required.

## Louis Bowman, Inc., Adds To Space In Richmond

RICHMOND, Va.—Louis O. Bowman, Inc., appliance distributor, has purchased the property at 905-15 East Cary St. for \$35,000 and will use it for expansion of its business, Louis O. Bowman, president, announces. The company will continue to use its present quarters and, including the new property, will have a total of 36,000 square feet of floor space.

**CAN YOU ANSWER THIS  
\$64 QUESTION?**

**HOW SOON CAN YOU GET THE  
BEST REFRIGERATION UNITS  
FOR YOUR PRODUCTS?**

"HOW SOON"? is the great big \$64 question to stump the experts. And it is true that an exact answer would make a lot of people very happy. Fully aware of many wartime contingencies and uncertainties, we nevertheless feel obligated to keep you informed as much as possible concerning deliveries. Here is information that may be of help to you:

**CONVENTIONAL UNITS** are in production for high rated orders. The limiting factors are electric motors and castings. In spite of the fact that we have many thousands of motors and tons of castings placed in advance of orders, the increasing volume of business and unprecedented demands of the war on the facilities of the motor manufacturers and foundries have created an acute shortage. We advise manufacturers to place second and third quarter requirements at once and others to anticipate at least six months.

**COMPRESSORS** are in increasing demand due particularly to the growing replacement market which has resulted from restrictions or "freezing" of many types of equipment for the past three years. There are some critical materials in compressor manufacture and some manpower problems.

We suggest that you anticipate requirements at least three to six months, depending on the rating.

**HERMETICS**—Production discontinued for the duration. Samples for postwar products are available to legitimate manufacturers.

**WRITE OR WIRE FOR FURTHER INFORMATION**

Now . . . and Postwar . . . Chieftain Is the Leader.



**Chieftain**

**TECUMSEH  
PRODUCTS CO.  
TECUMSEH • MICHIGAN**



## Kelvinator Sees Boom In Canada Postwar

LONDON, Ontario—Preparing for what it estimates will be a 75% to 100% increase in household refrigerator sales in the first postwar years, Kelvinator of Canada, Ltd., plans to increase its production some 70% over prewar figures, it is announced.

As soon as government controls are eased, the company will expand its plant space and obtain additional machinery and equipment. An extension on the main factory is scheduled for the enlarged press shop and welding operations, and it is expected that an addition to the refrigerator line will be required for frozen food marketing and home storage equipment.

Full postwar production schedule will call for a 45% increase in labor, it is said.

## McGinty Joins Airtemp In Minn.-St. Paul Area

MINNEAPOLIS—Robert H. McGinty, formerly sales and engineering representative for the Thermal Co., Inc., refrigeration jobber with headquarters in St. Paul, has joined Airtemp Division, Chrysler Corp., as district representative in the Minneapolis-St. Paul area, announces E. A. Ham, Airtemp northern regional supervisor.

Prior to his work with Thermal company, Mr. McGinty had served with the Dunning Co., Duluth, Minn., G-E distributor; the Northern States Power Co. of St. Cloud, Minn., as commercial refrigeration representative; and from 1939 to 1940 he was sales manager of Beecher-Cumming, Inc., Westinghouse distributor in this territory.

## Double the Recipe and Store Half In Home Freezer, Housewives Advised

NEW YORK CITY—If the user of a home freezer has some empty space in the unit during the winter months, it can be put to good use by cooking or baking more than the family needs for any particular meal, and storing the balance in the freezer, says *McCall's Magazine*.

Elizabeth Sweeney, Food and Equipment Editor, writing in collaboration with Edith F. Rauch, Home Service Director, Puget Sound Power & Light Co., Seattle, Wash., recommends that when cooking for the family meals, the recipe be doubled and half stored for future use.

Frozen main dish preparations need only to be heated, after unwrapping, in covered pan or double boiler with 2-3 tablespoons liquid over low flame, stirring occasionally.

Cake is frozen *baked*, and will keep for two to three months, say the authors. So, if a family is small and the cake too large, half can be wrapped and frozen. Confectioners' sugar frosting freezes best, and the

cake should be set to thaw at room temperature about two hours before eating. If the cake is unfrosted, it may be thawed in a moderate oven, 350° F., 10-15 minutes. Moist cakes like sponge or gingerbread are best if warmed before serving, the article says.

Mince Pie is frozen *before* baking, the authors say. The pie is prepared as usual, then wrapped tightly in cellophane with a stockinette covering, or in freezer paper, sealed with tape. To preserve moisture, no slits are made in the crust. Before serving, the pie is unwrapped, vents cut in the crust, and baked without thawing at 425° F., for about an hour—a frozen pie takes 10-15 minutes longer to bake than an unfrozen one.

Chicken or turkey à la king freezes splendidly, it is claimed. In packaging cooked meats in sauces, the solid pieces should be well covered with the liquid to give moisture and prevent drying out of the food.

## Refrigeration Man Aids British Arms Output



F. E. Kewley (second from right) represented Universal Cooler of Canada in London before the war, but now is assistant director of British small arms ammunition production. He stopped at the UCC plant in Marion, Ohio, recently to confer with (left to right) Dan Robertson, W. W. Higham, F. S. McNeal, (Kewley), and E. A. Langwish.



# Service Ribbons

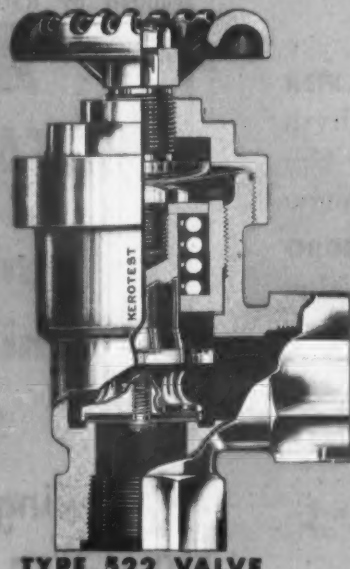
## to the JOBBER

For his untiring efforts in supplying Vital parts and equipment during this Wartime Emergency

Heaps of glory to him! His job has been a tough one, too—priorities and restrictions too long to list; long forms in triplicate copies (and often more); sons and daughters in the service; can't get good help—up before dawn and burning plenty of midnite oil. He's begged, pleaded and borrowed (from fellow jobbers) to get the parts and equipment you needed so badly . . . and he'll keep right on battling 'till Victory Day—even though these needed parts should become even more difficult to find.

So for all your requirements, always contact your Kerotest jobber FIRST for dependable Brass Valves, Fittings and Accessories for Refrigeration and Air Conditioning use.

KEROTEST MANUFACTURING CO.  
PITTSBURGH, PA.



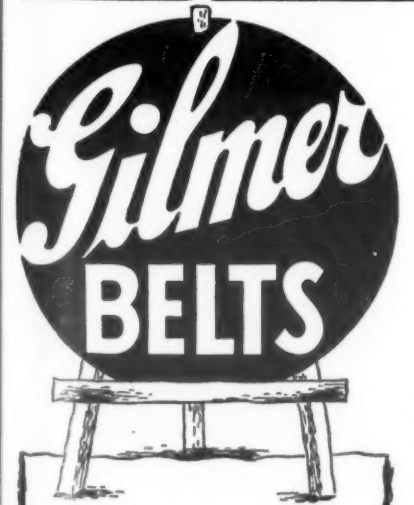
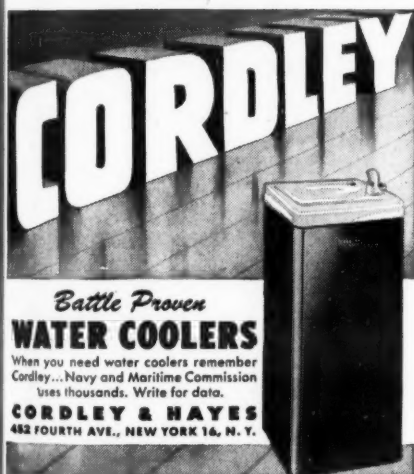
TYPE 522 VALVE

# KEROTEST

*Valves, Accessories, Fittings  
for Refrigeration, Air Conditioning*

ORIGINATORS

OF THE PATENTED PACKLESS DIAPHRAGM VALVES . . . KEROTEST



There's plenty of profitable business to be had in the sale of replacement belts for air conditioning and refrigeration units.

Dealers everywhere are ringing up tidy profits by supplying rugged, long-lived, efficient Gilmer Belts. Gilmers are built to give the best service to the user and are always goodwill builders for you. Order through your jobber today.

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Taunton, Phila. 35, Pa.  
Division of United States Rubber Company



**What's YOUR Shelving Problem?**

EXPERIENCE . . . QUALITY . . . SERVICE—that's what you get when you let Union Steel Products work with you on shelving for your post-war models. Our men have had years of experience in design and manufacture . . . our plant has every needed facility to turn out attractive, strong and correctly designed shelves and baskets. Let us suggest ways to turn out better shelving at lower costs. Available only in lots of 1000 and over. Write for our new brochure on Refrigerator Shelving.

**UNION STEEL PRODUCTS CO.**  
531 Berrien St., Albion, Michigan

## Locker Plants Searched

(Concluded from Page 1)

to the U. S. district attorney in Chicago for prosecution, declared Mr. Clay. Those found guilty are subject to a maximum sentence of one year in prison and a \$10,000 fine.

Generally, though, OPA officials indicated that locker patrons having an "excess" of meat will have to give up ration points, sell the meat for points, or turn the meat over to the OPA for distribution. Just what will constitute an "excess" of meat, OPA officials did not say.

Investigations on locker plant meat holdings are proceeding in Detroit, Lansing, and Pontiac, according to Michigan OPA officials. Detroit newspaper accounts indicate that stiff penalties might be handed out by OPA if any violations are discovered.

Theron M. Hall, Detroit OPA enforcement officer, is reported as saying that "owners of illicit supplies are liable to denial of the use of the meat and total suspension of all ration privileges for the duration."

Perhaps the most important aspect of OPA's newly announced program to relieve the meat shortage is the revised regulation governing slaughtering which went into effect April 30.

Announced purpose of this regulation is to bring more slaughtering under Federal inspection and thus make more meat available for general distribution throughout the country to the armed forces and civilians.

OPA Control Order 1—Livestock Slaughter and Meat Distribution—sets up three classes of slaughterers,

and establishes slaughtering procedure for them.

Class I slaughterers include those establishments subject to Federal inspection. No limitation is placed on their slaughter since, declares OPA, they are already subject to heavy government "set-aside" orders.

Class III slaughterers are those resident operators of farms who slaughtered livestock or had livestock slaughtered for them, from which they sold or transferred during 1944 not more than 6,000 pounds of dressed meat.

Class II slaughterers include all others, such as non-federally inspected commercial slaughterers and retail slaughterers, as well as any persons, other than farm slaughterers, who had livestock custom slaughtered for them, regardless of whether it was done by a Federally inspected plant or not.

Under the new regulation, the Class III (farm) slaughterer is not restricted in slaughtering livestock he has raised for his own consumption. But farmers who expect to sell or give away meat after May 13, 1945, are required to register with their local War Price and Rationing Board before they begin to market the meat.

The local board will assign the farm slaughterer a quota in pounds of dressed meat for each of the four quarters of the calendar year equivalent to 100% of what the farmer sold or gave away during the corresponding quarters of 1944, provided he turned in the number of ration reports and coupons required under regulations.

Those farmers who did not turn in the full number of ration points required will receive a full quota if they sign a compliance statement agreeing to collect the full point value for future meat sales and turn the points over to the local board.

Farm slaughterers are also required to make at least one ration report to local boards each quarter. Failure to comply will ultimately bring cancellation of the permit and the entire year's quota.

Farmers who sold no meat in 1944 may register with their local board and obtain a quota for deliveries up to 400 pounds a year.

Class II slaughterers must register with district OPA offices by May 14 to deliver meat under the new regulation. In registering they will supply such information as the actual live weight of livestock slaughtered, by species, in each of the accounting periods of 1944.

They will be required also to indicate whether they filed reports for subsidy payments with the Defense Supplies Corp., and whether they filed the amount of their slaughter periodically with the WFA. In addition, they will also be required to indicate whether they filed the required ration reports in each period.

Class II slaughterers will be given quota bases equivalent to the full live weight slaughtered in 1944 only if, during these periods, they have collected the necessary ration points required by Ration Order 16 and have given them to OPA. Those

who violated rationing regulations during the base period by not collecting and turning in the proper number of ration points will not obtain quota bases on the illegal slaughter, OPA said.

While OPA district offices check these reports, Class II slaughterers have been assigned the following quotas for May and June: cattle, 75% of their 1944 slaughter; calves, 75%; sheep and lambs, 100%; hogs, 50%.

Other actions in OPA's program to increase meat supplies includes:

1. Enlarging its meat black market staff three-fold by transferring trained investigators from other enforcement work.

2. Completing plans for a "vigorous drive" by these investigators against black market operations starting with slaughterers and covering wholesalers, hotel supply houses, and retail butchers.

3. Arranging for additional survey visits by price panel volunteers in each community to check meat retailers.

4. Requesting governors and mayors to support OPA's effort to wipe out the black market.

5. Working with the Treasury Department to supply information about over-ceiling payments, which are not allowable deductions for income tax purposes.

6. Arranging with the Defense Supplies Corp. to withhold subsidies whenever OPA institutes proceedings against slaughterers who are in violation of OPA regulations.

7. Intensifying its investigations on cases which can be referred to the Department of Justice for criminal prosecution.

8. Suspending promptly the licenses of slaughterers violating the new quota restrictions.

9. Holding a series of meetings throughout the country with business men in the food industry to help protect the meat industry "against depredations of the black market operators."



Frozen Spinach: "What's going on here?"

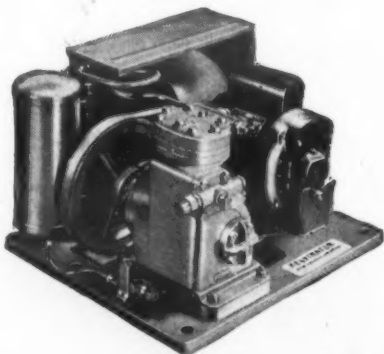
Ditto Beans: "It's that new Kelvinator Condensing Unit.

Keeps us frozen all the time!"

30 years of giving more dependability . . . more economy . . . more performance is the result of Kelvinator's unflinching leadership in condensing unit engineering and design.

That's why progressive service men always specify Kelvinator!

Kelvinator distributors and zone offices stock a complete line of refrigeration supplies. See them for your installation material such as valves, fittings, dryers, etc.



**Kelvinator**  
DIVISION OF NASH-KELVINATOR CORPORATION, DETROIT



CONDENSING UNITS  
SEALED • OPEN  
FOR YOUR HOME—REMEMBER KELVINATOR REFRIGERATORS, ELECTRIC RANGES, WATER HEATERS AND HOME FREEZERS

**TRUCK**  
Immediate Delivery  
Rubber Tired Wheels  
NOW! "Handee Andy" all purpose tube steel 600 lb. cap. Full size, first quality, not a wartime makeshift. Light wt. very easy to handle. Ht. 44" .14" wide at nose. Curved cross pieces. The only truck we sell. Specializing permits a better truck, and more of them! By mail only at present time. Fully guaranteed. F.O.B. 15% 10 days. Unrated firms cash with order. AAS will assist immediate delivery. Clip this.

**9.95** Lots of 12  
Single, \$12.95

The HANDEES CO., Dept. 25C7 Bloomington, Ill.

**Commercial REFRIGERATION**  
MODERN  
• DISPLAY CASES  
• COOLERS  
• REFRIGERATORS  
• HOME FREEZERS  
AMANA SOCIETY  
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Achieving Post-War Super-Accuracy NOW with



**AIR CONDITIONING**

Builders of fine tools, gages and dies, and of machinery in sizes from giant gears to delicate instruments, find air conditioning the key to higher accuracy and complete standardization.

When users such as Pratt and Whitney, Caterpillar Military Engine Co., Western Electric Co., the U. S. Army, and the Landis Tool Co. (research and meeting rooms shown above) select Frick Air Conditioning, you can be sure it's "right." With it, conditions can either be automatically kept uniform, the year 'round, or be compensated to match weather changes.

Could your plant profit from a similar installation? Whether you need air conditioning or extremely low temperatures—for production, testing, research, or comfort—there's a Frick System to do the job. Write for Bulletins 503, 504 and 505.

FRICK CO., Waynesboro, Penna., U.S.A.



## Here Are Some More 'Tricky' 'Information Please' Questions

**Editor's Note:** More of the "Information Please" questions and answers on refrigeration problems which were presented at the recent Montreal meeting of the Interprovincial Association of R.S.E.S. are presented in this issue. Harry Parish was moderator of the session.

### Multiple System Valving

**Q.** When a liquid cooling fixture such as a brine or sweet water bath is installed in a multiple system should liquid and suction magnetic valves always be installed?

**A.** With a sweet water bath such as is installed in a soda fountain or beverage cooler it is good practice to install only a suction pressure control valve to maintain a constant temperature in the fixture. With a brine installation if the desired temperature is lower than the rest of the installation a check valve should be installed in the suction line, the pressure control on the multiple unit always controlling the lowest temperature.

### Milk Cooler Practice

**Q.** On a milk cooler using 1/2-inch copper tubing evaporator without agitator should the expansion valve be connected to the top or bottom feed of the coil?

**A.** Connect the expansion valve to the top of the coil bringing the suction outlet from the bottom to a point higher than the inlet and connect the feeler bulb at a point above the water line. This will insure a flooded condition in the cooling coil.

### Alcohol Not Needed

**Q.** If a household unit using "Freon-12" is thoroughly dehydrated, should alcohol be installed in the system as advised by the manufacturer?

**A.** If a domestic unit is thoroughly dehydrated the addition of alcohol is certainly not necessary. If there is any doubt about the dry quality of the refrigerant a small dryer using Silica Gel would supply the necessary protection.

### Zinc for SO<sub>2</sub> Systems

**Q.** Is zinc a good neutralizer for acid caused from moisture and SO<sub>2</sub>? Is it recommended to be used? If not, why? This is assuming it is used in conjunction with a strainer in the liquid line.

**A.** This is not an easy question to answer because moisture in an SO<sub>2</sub> system forms sulphurous acid which will immediately start to erode metal parts. There are available combination neutralizers, dryers, and strainers which have in their makeup a percentage of zinc to neutralize the acid. There is no substitute for a complete dehydration of the system when this appears necessary.

### 'F-22' as Substitute

**Q.** Can we use "Freon-22" in "Freon-12" units?

**A.** "Freon-22" should not be used except with condensing units specially designed for this refrigerant. Pressures are considerably greater and it is not intended that "Freon-22" be used as a substitute. This new refrigerant was designed for low temperature work exclusively.

### Special Thermostat

**Q.** Is it possible to obtain a special thermostat for operation in altitudes as high as 25,000 feet?

**A.** Special thermostats are available for operation in airplanes on special order. The Douglas MacArthur Flying Kitchen was equipped with this type of thermostat.

### Plastic Refrigerator?

**Q.** What part will "plastics" have in the refrigeration field in the post-war era?

**A.** It is expected that plastics will be used only for trimmings and decoration and it is not conceded at the present time that plastics will be used to substitute any of the metals previously used in refrigerators.

### Starting Knocks

**Q.** Why should a compressor knock so much right after it starts then later get quiet?

**A.** This is a matter of pressure in the system. Valve lift will possibly have much to do with this. On the start of the cycle pressures are high and are gradually reduced.

### 'F-12' vs. Aluminum

**Q.** Does "Freon-12" form corrosion on aluminum?

**A.** Pure "Freon-12" does not cause corrosion but moisture in a system using either "Freon," methyl, or sulphur forms a certain amount of acid.

### Sizing Suction Lines

**Q.** On low temperature application, if suction line size is to be larger than the suction inlet on the compressor, how badly would you say a small opening at the compressor intake would affect the operation?

**A.** As long as the suction lines are adequate for the job, the small opening at the compressor would have little effect on the efficiency of the operation.

## How Many?

One Locker-100 Lockers-a Carload?

## When Wanted?

You set the time-we meet it.

## MASTER FOOD CONSERVATORS

On Time  
Any Time  
Wire,  
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**MASTER MANUFACTURING CORP.**  
121 MAIN STREET SIOUX CITY 4, IOWA  
Member of Frozen Food Locker Manufacturers and Suppliers Ass'n organized for your protection.

Over 700,000 Master Food Conservators in Use



SOME REPLACEMENTS ARE TOUGH TO MAKE  
... BUT IT'S EASY WITH

# DU PONT METHYL CHLORIDE!

REPLACEMENTS are easily made with pure, dry Du Pont Methyl Chloride. And you'll find this product equally satisfactory for original charging and recharging too.

**ORDER WHAT YOU NEED**—but don't stock up! You can get Du Pont Methyl Chloride when you need it—quickly—from stocks in principal cities. Assure yourself rapid deliveries by returning cylinders promptly.

INVEST IN PEACE—BUY BONDS!

**E. I. DU PONT DE NEMOURS & CO. (Inc.)**  
ELECTROCHEMICALS DEPARTMENT  
WILMINGTON 98, DELAWARE



BETTER THINGS FOR BETTER LIVING  
... THROUGH CHEMISTRY

### Du Pont Methyl Chloride—Specifications

Purity . . . . . 99.5% Methyl Chloride  
Moisture . . . . . 0.008% by wgt. max.  
Acid (as HCl) . . . . . 0.001% by wgt. max.  
Residue on Evaporation .001% by wgt. max.  
Boiling Range (760mm). —24.6° to —23.6°C.  
Color . . . . . water white, clear

### REPLACEMENT TIPS

1. Make sure system is thoroughly clean and dry before installing Methyl Chloride.
2. Allow for the fact that Methyl Chloride, per unit volume, weighs less than most other refrigerants.
3. Control (i.e., capillary) tubes should be made smaller to allow for Methyl Chloride's lower viscosity, lower resistance to flow through pipes.
4. Speed up the compressor 5-10%, to handle increased volume of vapor.
5. Maintain dryness of refrigerant, system and lubricating oil at all times. Use DRY Du Pont Methyl Chloride.
6. Don't use Methyl Chloride with die castings, aluminum, zinc or magnesium and its alloys.

## DUPONT ELECTROCHEMICALS



# Dealers Would Display & Sell, Distributor Would Deliver Under 'Milk Route' Plan

## Novel Appliance Distribution Plan Is Proposed To Cover 100-Mile Radius Over 3 States

LAWRENCEVILLE, Ill. — Designated as the "Milk Route Distribution" of household electrical appliances, a radically different idea for the distribution of appliances is being formulated by the Suttle Equipment Co. of Lawrenceville, Ill.

The main elements of the plan are to have retail dealers in each trading center in the area covered, these stores to display but not stock merchandise, the deliveries to be made by a fleet of trucks operating on a "milk route" schedule.

The Suttle Equipment Co. has been in existence since 1910. Its principal

business has consisted of the manufacture and repair of commercial telephone apparatus and supplies. It has also manufactured some electrical appliances, and has also acted as a jobber for electrical appliances, although this activity was never very extensive. The "milk route" plan of distribution was developed entirely within the Suttle organization.

This is how the Suttle Co. officials visualize the workings of the plan to cover an area roughly within a radius of 100 miles of Lawrenceville (which is in the southeast corner of

Illinois), which area embraces a population of about 2 million persons:

Every trading center would have an exclusively electrical retail store. Such stores are to be primarily display salesrooms operated by an independent dealer selected for his sales ability.

A central stock depot, and a central repair and re-manufacturing factory would be located in the geographical center of all outlet stores, with no store further than 140 highway miles from the principal warehouse stock.

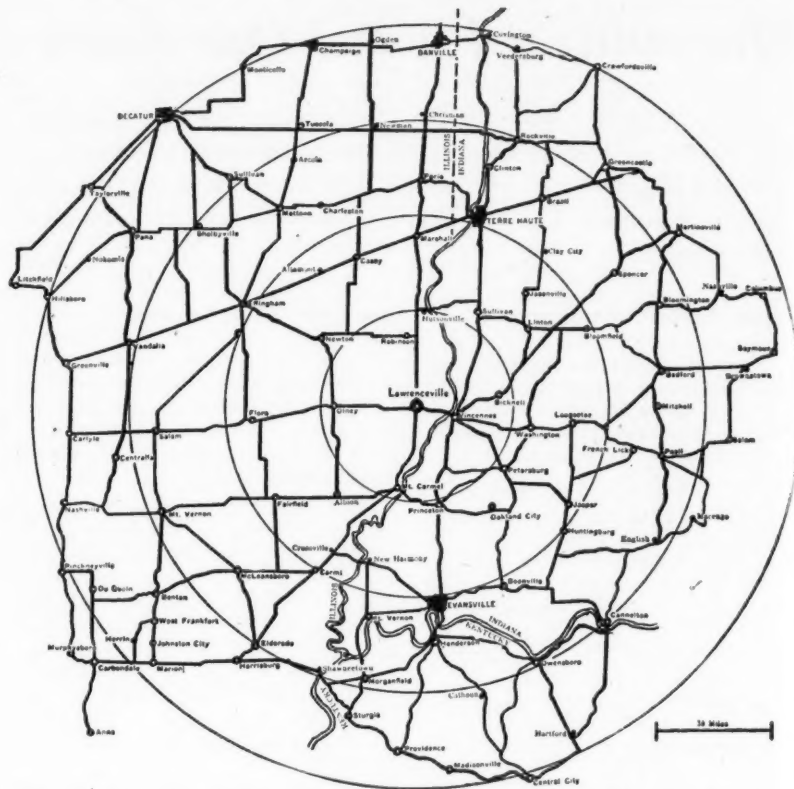
A fleet of trucks, operated on a milk route schedule, would make deliveries and pick up shipments between each store and the central depot not less than twice a week.

Under this plan the retail store carries no merchandise for sale other than miscellaneous small items. It will have on display one of each item of the larger appliances or fixtures for demonstration and display purposes. The dealer would operate on a franchise from Suttle, and in compliance with the policies set up for such a store.

No repair or service shops would be operated by the dealer, who would ship all repairs into the central factory via the milk route trucks.

At the same location as the central warehouse there would be, according to present plans, "factory facilities" for making repairs on a

## Big Rural Area Is Covered by 'Milk Route'



This is the area that would be covered in the "milk route" plan of appliance distribution proposed by the Suttle Equipment Co. of Lawrenceville, Ill. Distance between circles is 25 miles. Black lines show interconnecting roads.

One of the largest exclusive refrigeration stocks in America

Orders shipped same day as received

**T. W. BINDER CO.**

29 A So. Orange Ave.

NEWARK 3, N. J. - Mitchell 2-5346

large production basis. It is estimated that 50 to 100 service experts, using the best available tools, would work in this service shop.

What happens under the plan when the dealer takes an order for a refrigerator or other appliance? He would supposedly phone in such an order direct to the central warehouse, and according to these who have devised the plan, the merchandise would be at his store within a maximum of three days' time. Such a plan contemplates that the central warehouse stock is constantly balanced and checked to provide immediate service for the needs of all associated stores.

Merchandise would be shipped via specially built trucks, routed and scheduled by an experienced dispatcher. It is believed that such trucks would carry a fairly good payload of equipment to be serviced on return trips.

The Suttle officials make the following claim of advantages to the dealer in their plan:

1. The dealer gets a high quality line to sell at a regular dealer discount, and has almost unlimited stock back of him with no investment other than a floor display.
2. Free delivery of the merchandise to the dealer's place of business or to his customers, within three days' time.
3. Dependable service on all repair jobs that he takes in, with pick-up and delivery by the trucks. The dealer "gets his regular profit" on all these repairs, say the Suttle officials.
4. Assistance on trade-ins as follows:

a. An outlet for all usable trade-ins

which he can sell to Suttle for a fixed price.

b. A choice of high quality factory re-manufactured merchandise to be sent to him on consignment.

5. Specialized merchandising assistance along the following lines:

a. A complete consumer's catalog for his own store, illustrating all the merchandise he has to offer. These will be supplied in quantities proportionate to the dealer's sales.

b. Mat and copy services on advertising for the dealer's local newspaper.

c. Store fixtures, display fixtures, and window dressings at cost.

d. Counsel on selling and store problems by a merchandising specialist.

e. Outside collection service on bad accounts.

f. Direct guidance and service in the use of selling helps provided by the manufacturer.

6. Free daily telephone service to place his orders and get other services from the warehouse.

7. Direct assistance on service by Suttle men in the field. "Defective" equipment will be picked up by the trucks and taken in to the "factory."

8. An opportunity to have a say on the choice of lines, at quarterly conferences of all dealers. He will not have to devote time to salesmen calling on him.

The dealer, in return, is restricted in the following manner:

1. He may not handle anything except the lines supplied him by Suttle.
2. He is not to operate a repair shop, although he would make such

(Concluded on next page)

"DEPENDABLE...that's what Philco means to me!"



"EVERY TIME I come into the kitchen... I feel like patting myself on the back because of this Philco Refrigerator! You see... we needed a new refrigerator back in '41... and Mary and I gave a lot of thought to picking the right one. Many a time since, Mary has said how glad she was to have a Philco with a big storage space for frozen foods. Says she doesn't have to shop so often because she can buy in advance and keep meats and frozen food packages in

perfect condition until she wants to serve them. And notice, it's separate from the ice cube chamber... we always have all the ice we need.

"But that isn't all. Dependability... that's what has meant most to me, especially during these days. This Philco has been on the job for us month after month and year after year, without trouble. That's what I figured we bought when we put our faith in that Philco name."

And that's what you can figure on when you see the new Philco Refrigerator... after Victory!

Time in the Philco Hour, with Paul Whiteman, Sundays 6 P. M. to 7 P. M., E W T, Blue Network

**PHILCO**

This is the message of Philco in refrigeration... advanced engineering plus quality and sound manufacture. Merchandised in the tradition of Philco leadership, it holds a rich promise of profit for all Philco dealers.

**PHILCO**

REFRIGERATORS AND FREEZER CHESTS

**DON'T LET Postwar Business slip through your fingers**

**BE READY TO TAKE CARE OF ALL COMMERCIAL REFRIGERATION NEEDS just as soon as the green light says "go".**

The complete Sherer line—freezers and display refrigerators of all kinds will be available when restrictions are removed. Reach-in refrigerators and walk-in cooling rooms, as well as the Sherer distribution franchise, are available now! Write or wire today.

**SHERER-GILLET COMPANY**  
MARSHALL, MICHIGAN



## 'Milk Route' Plan Would Have Big Shop For Distributor To Handle Most Repairs

(Concluded from preceding page)  
service calls as were necessary to provide "in the home" repairs.

3. The dealer must carry the minimum standard floor display, but he cannot carry stock except as specifically approved on small items with quick turnover. He will get notification of all change in models well in advance so he can move his discontinued models. If he gets caught the Suttle merchandising department will take the display item off his hands at cost, and handle it through the re-manufactured sales department.

4. While special service will be provided for collection of bad accounts, the Suttle Co. will assume no credit responsibility. The dealer must handle his own credit matters and normal collections.

5. The dealer must be successful and show a profit or his franchise will be withdrawn.

6. He will be expected to cooperate in every way possible with the complete set-up.

7. Dealer accounts with the factory and warehouse must be balanced out every month.

The "milk route" principle is the heart of the Suttle plan, it is the thing that makes it different. This is how the Suttle officials plan to work it out from their end, and the advantages they see accruing from it:

Trucks are to be dispatched and scheduled so that every third day one pulls up to the retail store at pretty much the same hour. One group of stores has deliveries and pick-up on Mondays and Thursdays, another on Tuesdays and Fridays, and a third group on Wednesdays and Saturdays.

In normal times a fleet of at least six trucks would be necessary to maintain the schedule. These trucks would have to be very large, with special bodies designed to carry all types of appliance and apparatus safely, and with special shelves and racks for smaller orders. It is believed that packing expenses usually encountered would be eliminated.

Routing would be supervised by a traffic manager, checking each cargo against bills of materials supplied

by the order and service department. The driver would have detailed orders for the distribution of all merchandise carried. Pick-ups for delivery to all other stores on the route, and return to the factory will be turned over to the driver by the store operators.

While the cost of moving merchandise in this manner appears high, the Suttle interests believe the following advantages must be taken into consideration:

1. Cost of having salesmen call on dealers is eliminated. Actual mileage is estimated at not much over 150 miles daily, and it is deemed probable that keeping a salesman on the road would cost as much as the truck.

2. Service men, the merchandising specialist, or any other member of the Suttle organization can ride the truck and maintain contact with the

store operator without special travel mileage.

3. Since delivery is free no records are required for shipping charges, no bills of lading must be made out, and a simple tag or sticker serves for a shipping label.

4. Returns and allowances are reduced because merchandise is in plain sight and misunderstandings can be handled by the truck driver on the spot.

### Ceilings Set on Frigidaire Ranges

DAYTON, Ohio—Ceiling prices on two models of household electric ranges produced by Frigidaire Division, General Motors Corp., have been established by OPA at the March, 1942, levels.

The models are the B-17 and the B-17-LL, identical except for the cooking top lamp on the B-17. Ceilings range from a low of \$175.35 for retail sales of the B-17 in the first zone to \$189.31 for West Coast sales. Price ceilings on the B-17-LL are approximately \$5 less.

### Olsen, Cunningham New Directors of I.C.I.

DETROIT—Election of new directors to fill two vacancies on the governing board of Indoor Climate Institute, has been announced by Paul B. Zimmerman, president.

The new directors are C. A. Olsen, president of the C. A. Olsen Mfg. Co. of Elyria, and president of Henry Furnace Co., Medina, Ohio; and Bruce T. Cunningham, sales executive of Research Products Corp., Madison, Wis.

Mr. Olsen, one of the most progressive men in the warm air business, is the former manager of Fox Furnace Co., division of American Radiator, and past president of the National Warm Air Heating and Air Conditioning Association during the period it carried on its most active research and trade activities.

Mr. Cunningham is a member of the Postwar Personnel and Training Committee of I.C.I. The companies represented by the new directors are charter members of the Institute.

GENUINE  
**MAYFLOWER**  
CONDENSING UNITS AND PARTS

**Jobber Inquiries Invited**

A complete line backed by nearly a quarter century of user confidence. Write for prices.

**MAYFLOWER PRODUCTS, INC.**  
13 S. 5th St., Richmond, Ind.

**Automatic HEATING & COOLING SUPPLY**  
Division of Well-MoLain Company

Jobbers of the best lines in Refrigeration. What you need, we carry.

Catalog mailed on request.

MAIN OFFICE BRANCH  
647 W. Lake St. 809 W. 74th St.  
Chicago 6, Ill. Chicago 21, Ill.

**REGISTER NOW FOR YOUR NEW BENDIX automatic Home Laundry**

**BENDIX**

**"Imagine! She's First in Line for a NEW BENDIX!"**

D'ye ever before hear of a woman being *envied* because she was first in line for the privilege of buying an electric "washer"? No, you never did! Not in all the history of washing machines! But it's true now!

Thousands of women are congratulating themselves—and being envied and looked-up-to—because they've registered their desire for one of the first new Bendix Automatic Home Laundries available. They even consider themselves lucky to be one of the *first half million!* And why not?

They'll get the *only* completely home-tested and proved "automatic"—that washes, rinses and damp-dries at the click of a switch. The *only* "automatic" that's hailed and championed by three hundred thousand enthusiastic owners.

The *only* "automatic" that's proved and acclaimed by eight years of satisfying owner-experience. And they'll get it as quickly as they could obtain a second choice which might be less satisfying.

That's why the dealer who had the gumption to see through his buyers' eyes—has been quick to identify himself as the merchant who'll sell the one-and-only Bendix Automatic Home Laundry.

**BENDIX automatic Home Laundry**

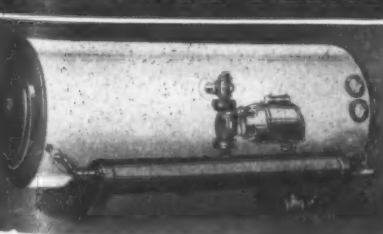
Bendix Home Appliances, Inc., South Bend, Indiana...Pioneers and Perfectors of the Automatic "Washer"

### "RECORD" WATER DEFROST

**"RECORD" COILS** WATER-DEFROST  
U.S. PAT. 2,278,393  
NEW ITALIAN PAT. 87,358

**REFRIGERATION ENGINEERING INC.**  
LOS ANGELES - CALIFORNIA

### HIGH SUCTION PROCESS WATER COOLERS



25 to 150 gallon storage capacities.

135 to 1000 G. P. H. recovery capacities.

Suitable for bakery ingredient, jacket cooling, film processing air conditioning or other commercial cooling.

Available with or without agitator pumps.

**COOLER DIVISION DAY & NIGHT MFG. CO.**  
MONROVIA - CALIFORNIA

FACTORY REPRESENTATIVES:

NEW YORK: A. C. Hammer, 582 B'way.  
CHICAGO: Marc Shantz, 565 Wash Blvd.  
ST. LOUIS: J. E. Parker, 294 Peachtree, N. E.  
ATLANTA, GA.



## Let's Discuss "Small Parts"

### WADSWORTH FACILITIES

Die Making  
Jigs and Fixtures  
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Model Building  
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Product Design

You may be able to use Wadsworth's unusual facilities for production and delivery on time of small parts. The skills which four times have won for Wadsworth the Army and Navy "E" Award will be available for production of critical small parts and sub-assemblies, difficult or expensive for the average plant because of intricacy or close tolerance. These we are prepared to make and deliver ON TIME.

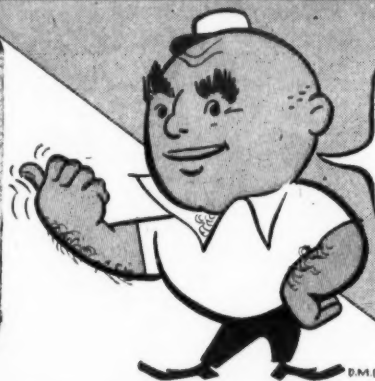
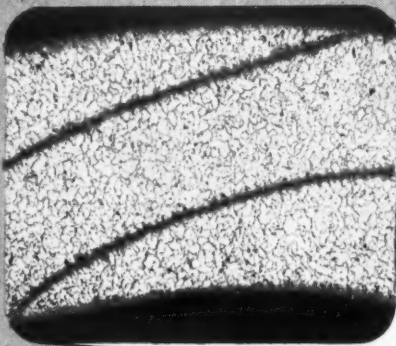
SMALL PARTS DIVISION

THE **Wadsworth** WATCH CASE CO., INC.  
DAYTON, KENTUCKY, SUBURB OF CINCINNATI, OHIO

TODAY WE ARE SERVING THESE INTERESTS: Aircraft • Automotive • Bearing • Electronics  
Instruments • Machine Tool • Small Arms • Refrigeration

## Back the Attack . . . Buy War Bonds

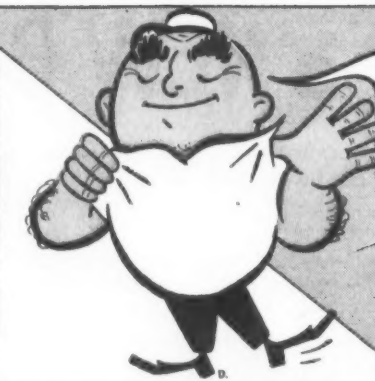
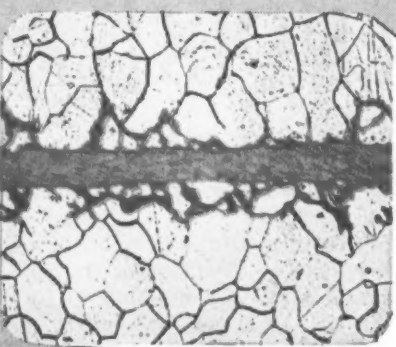
### BUNDYWELD SPOTLIGHTED



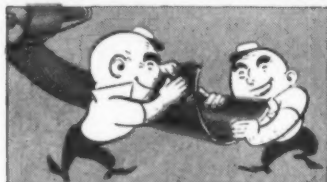
**SMOOTH JOINT . . .** Note in this photomicrograph how the beveled edges of the strip produce a tube uniformly smooth on the outside and with no inside bead.



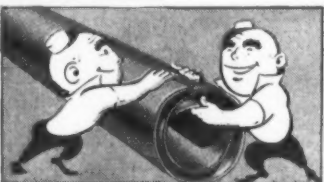
**SOLID DOUBLE WALL . . .** And note here how Bundyweld is made from a single steel strip laterally rolled twice for strength.



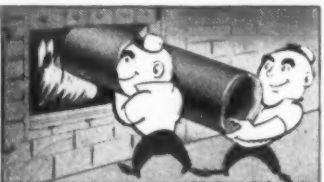
**PERFECT BOND . . .** This greatly enlarged view shows how the copper coating alloys with the steel throughout 360° of wall contact.



1 Bundyweld Tubing is made by a process entirely different from that used in making other tubing. A single strip of copper-coated S.A.E. 1010 steel is continuously rolled twice laterally . . .



2 . . . into tubular form. Walls of uniform thickness and concentricity are assured by the use of close tolerance cold rolled strip. This double rolled strip passes through a furnace where the . . .



3 . . . copper coating fuses and alloys with the double steel walls. After brazing and cooling, it becomes a solid double wall steel tube, copper brazed throughout 360° of wall contact . . .



4 . . . copper coated inside and out, free from scale, and closely held to dimensions. Hard or annealed in standard sizes up to 5/8" O.D. Special sizes cold drawn. Also furnished in Monel.

**BUNDY TUBING**

ENGINEERED TO YOUR EXPECTATIONS

For help in planning, write Bundy Tubing Co., Detroit 13

#### BUNDY TUBING DISTRIBUTORS AND REPRESENTATIVES:

Pacific Metals Company, Ltd.  
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San Francisco 10, California

Standard Tube Sales Corp.  
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Maspeth, New York City, N. Y.

Lopham-Hickey Company  
3333 W. 47th Place  
Chicago 32, Illinois

Rutan & Company  
112 South 16th Street  
Philadelphia 2, Pennsylvania

Eagle Metals Company  
3628 East Marginal Way  
Seattle 4, Washington

## Off the Chest

SEES A 'KEYNOTE' IN  
APRIL 23 EDITORIAL

The Wadsworth Watch Case Co., Inc.  
Dayton, Ky.

Editor:

I want to thank you for your April 23 editorial. This piece of writing makes articulate the feelings and thoughts of so many Americans who share many of your expressed beliefs, as I do.

Whether or not you and I agreed often with Mr. Roosevelt, and apparently we rarely did, we feel that he was indeed a great and gallant man.

I hope that your remarks concerning Mr. Truman can keynote the cooperative attitude of a nation toward a simple man who has the opportunity to return our part of the world to a state of sanity we need so much and which could hardly be desired or even understood by another man bearing the stamp of "genius."

If there is flattery in the fact that this note is the first "Letters to the Editor" sort of thing I've ever felt I had to write, please accept it in its sincerest form.

W. J. MCLAUGHLIN

CHARLIE LEOPOLD SAYS  
HE DIDN'T SAY IT

213-15 S. Broad St.  
Philadelphia (7) Pa.

Editor:

In AIR CONDITIONING & REFRIGERATION NEWS, March 12, I note a review of a panel discussion by C. Dale Mericle. He states, as a direct quote:

"Factory assembled units are generally much better than systems erected in the field and, in addition, will be less expensive."

This quote was built out of thin air and is contrary to my actual statement, which you will find on the second page of the enclosed. [See below].

CHARLES S. LEOPOLD

(Editor's Note: The following excerpt is from a copy of the talk presented by Mr. Leopold at the panel discussion on air conditioning conducted by the New York chapter of the American Institute of Architects.)

"The trend toward package [air conditioning] units is bound to increase with the improvement of the units and the power of the manufacturers' advertising."

"To realize the savings in the use of package units, it is usually necessary to accept some compromise in result and these compromises vary in importance. In many cases they are justified."

"For large areas of reasonable permanency, the field assembled installations will, in general, remain desirable. Between the large substantial installation and the relatively small project, which can be served by a completely factory assembled unit, there is a large field in which various parts of the apparatus will be grouped and shipped as one piece by the manufacturer."

"The dividing line between these three types of installation will remain relatively indeterminate and be ultimately decided by the engineering of the particular application and the sales pressure."

### VETERAN SEEKS SALES JOB

11024 Harvard Ave.  
Cleveland (5) Ohio

Editor:

I am a Navy war veteran with an honorable discharge. Age 43, married, and no physical deformities. Prior to enlistment in 1942, I had 12 years experience merchandising refrigeration equipment and electric-gas appliances. While in the Navy I had charge of men, aviation ordnance, and training air crew men and officers at advance bases. I can do a good selling job—my background and record stand on merit.

Would you have any suggestion to offer?

I prefer Factory-to-Distributor or Distributor-to-Dealer contact.

JOHN H. RONAY

## Service Engineers Should Know . . .



### "VIRGINIA" METHYL CHLORIDE IS REALLY LABORATORY TESTED

— the content of each and every container — large or small — is analyzed 3 separate times.



#### BOILING POINT TEST

1. A measured sample from each cylinder must be water-white in color and when boiled to dryness must record within 25/100 of 1 degree a constant boiling point of minus 23.8°C. This test detects unwanted hydrocarbons, dirt and oil impurities.



#### ACIDITY TEST

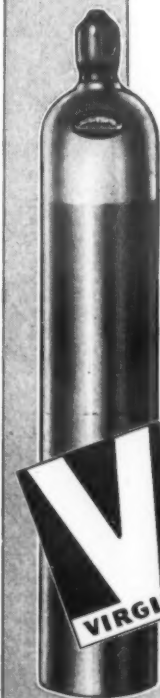
2. The acid content in a sample of known weight must not exceed 6 parts per million; low acidity prevents copper plating and oil sludging.



#### MOISTURE TEST

3. The moisture in a sample of known weight must not exceed 80 parts per million; — low moisture prevents freezing at expansion valve and refrigerant break-down.

The name "V-METH-L" on the cylinder is your guarantee of quality. Sold by refrigeration supply jobbers everywhere.



**VIRGINIA Smetting Co.**

WEST NORFOLK, VA.

76 BEAVER ST., NEW YORK 5 : 131 STATE ST. BOSTON 4  
Agents for Kinefric's "Freon-12" — "Freon-22" — "Freon-11"



## Distributing Field Facing a Bigger Job of Reconversion Than Producers, Lawson Warns

PITTSBURGH—The retailer shares with the manufacturer the responsibility for speedy and effective reconversion—and his problems as a distributor of goods are likely to be even more extended than those faced by the producer, declares Charles T. Lawson, vice president of Nash-Kelvinator Corp. in charge of Kelvinator sales.

"While the manufacturer's job can be accomplished in a matter of months, it seems that the retailer may have to take much longer than that to rebuild his sales forces to a point consistent with the opportunity lying ahead," Mr. Lawson told two association meetings, addressing both the Electric League of Western Pennsylvania and the Beaver Valley Electric League.

The retailer's reconversion problems hardly lie in physical reconstruction, he said, pointing out that these things "can be taken care of in stride," but rather are primarily concerned with the revitalization and reharnessing of sales manpower. The reconversion of men, he believes, is the most serious of the postwar tasks facing merchandisers, especially those normally handling products not available during the war period.

### WHAT ARE THE PROBLEMS?

Aside from the general need for a resuscitation of "the arts of salesmanship," Mr. Lawson outlined the major phases of the problem as including:

- 1) the reorientation of service men and war workers entering or re-entering the selling field;
- 2) the competition with other professions for the services of the best men;
- 3) the need for intelligent and tolerant coaching of green or rusty manpower;
- 4) the development and activating of sound "work plans," and
- 5) the need for far better-informed salesmanship.

"We are going to have to know more about the products we are selling. For example, how many manufacturers or retailers, or salesmen could today give a good product demonstration on the line they were selling before the war?"

"We are going to have to know more of the consumers' needs than we did in the past because the consumer, in my opinion, is going to know more about the products he

wants than he did before the war.

"Shortages and rationing, such as we have experienced, force the acquisition of knowledge and have, of necessity, made the housewife a better purchasing agent. We have learned more about the real meaning of quality because of the inadequate substitutes we have been left with. There has been a whole generation of consumer education packed into these war years.

"Those of us who have been salesmen will give the profession no back seat to anything—but the truth is that after three years of war, salesmanship does not rank high in the minds of young men as a vocation. Recent surveys bear this out. Being a salesman ranked very low among professions listed by soldiers in their preferences for postwar occupation.

### VETERANS SHUN SELLING

"When it comes to selection of the men now in the armed services, the men who have risen to be leaders will bear a great deal of consideration. They have proved themselves capable of leadership and in possession of the kind of attitude toward the job that makes good salesmen. Among the young men who have attained higher ranks you will find many of the sales leaders of tomorrow. They are extremely good prospects as sales managers.

"Men turning to new lives, to the pursuit of new careers, have a morale problem under any circumstance, let alone in the violent circumstance of war. Roots torn out need generous attention until they have gotten a new grip on the soil. Be a good gardener.

### NEW TEAMWORK NEEDED

"What you will have to display, if you are to build a real organization, is an intelligent and rational tolerance—not merely friendliness, but an active, studied understanding of the problems of the men who return to you.

"You know how the good coach brings his men along slowly, with sound understanding, guides them back into condition . . . how he studies his material with a critical and kindly eye, gently sifting out the men he observes will never make the grade, but stringing along with many an awkward looking newcomer who

needs nothing beyond intensive practice and patient guiding to become a great asset to the team."

Pointing up the joint responsibility of distributing and manufacturing forces in working for postwar prosperity, Mr. Lawson asserted that whether full employment after the war means 53, 55, or 60 million persons, the job is not entirely "industry's," as is generally declared.

Of the 54 million persons employed in 1941, he said, only 14,700,000 were engaged in any manufacturing, construction, or mining efforts, while 16,000,000 were employed in retailing, wholesaling, finance, and service-type professions, proprietors, self-employed, etc. Of the latter figure, retail stores and wholesale trade alone accounted for nearly 7,000,000 individuals, he pointed out.

Speaking of the potentialities of the postwar market, Mr. Lawson declared that while there will be "greater purchasing desire and greater purchasing power," there will also be the "greatest competition of all time for the consumer dollar."

As an example in point, he cited the case of one of his department heads who recently sat down with his wife and listed the number of things they had expressed an intention to buy after the war. When the list was totaled, he said, it actually amounted to more than the man's yearly income after taxes.

"His case is no different from that of most consumers today," Mr. Lawson said. "He has the desire and his income outlook is good—yet many salesmen will be competing for his dollar, and whoever does the best job of selling him is going to be the one who gets the sale."

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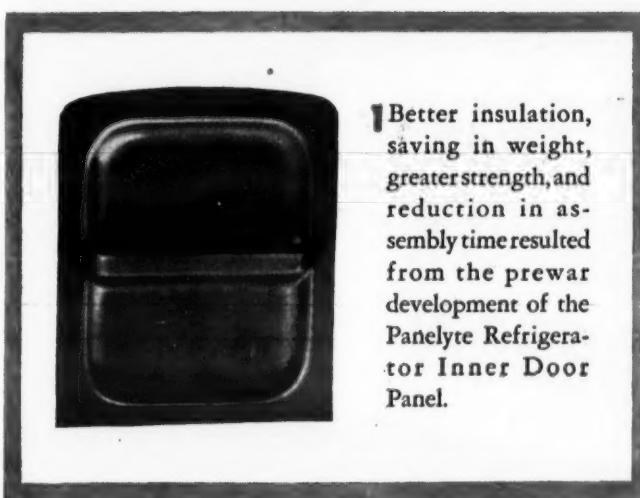
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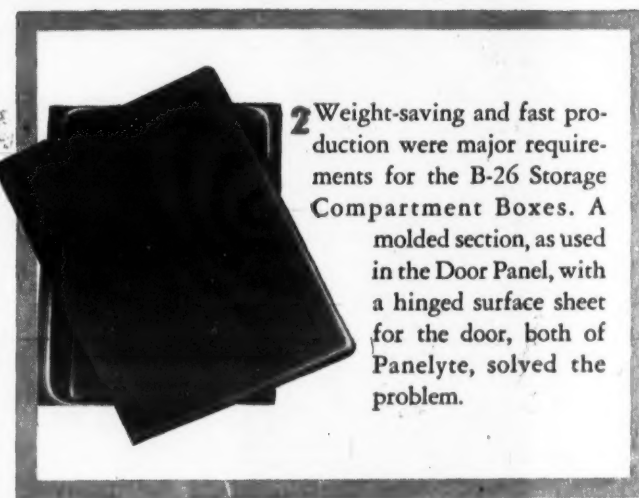
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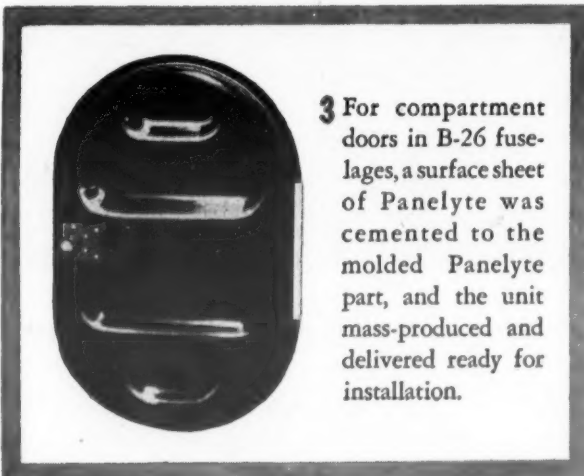
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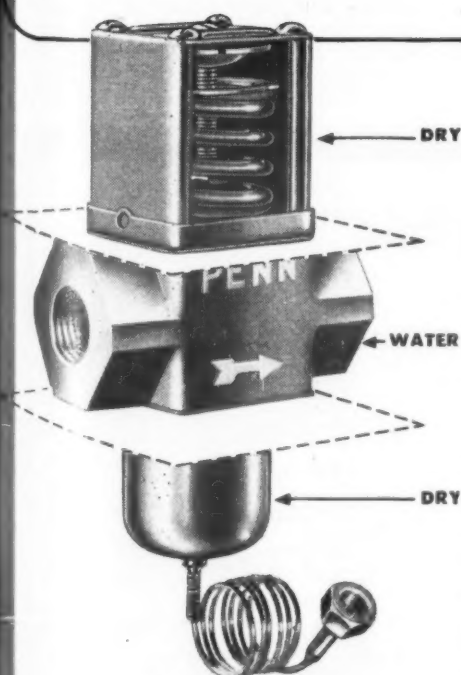
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## Improved Distribution Is One Way To Better Our Life, Says George Jones

By GERALD ELDREDGE STEDMAN  
Reporting an Interview With

GEORGE S. JONES, Jr.

President, National Federation of Sales Executives,  
and Vice President in Charge of Sales, Servel, Inc.

"The functions of distribution must be more certainly understood and dignified if we are further to achieve the outworkings of our machine age. Too many, even those who are in it, seem unconscious of the transcendent place it now holds in our newer economics. We must develop a more respectful appreciation of its importance in the generation of movement and velocity in our working affairs," George S. Jones thus opened another down-to-earth interview on postwar essentials.

A former talk with him was reported in the Jan. 4, 1943, issue of AIR CONDITIONING & REFRIGERATION NEWS. This defined "The Salesman's Place In The World Of Peace That Is To Come." His observations in that widely reprinted article have profoundly encouraged business thinking.

Within the past year, as president of the National Federation of Sales Executives, Mr. Jones has visited most of the country's leading trading centers, addressing thousands of salesmen.

"There has been a lot of discussion by economists, bureaucrats, and politicians about the need of maintaining a permanent employment level around 60,000,000 after the war," Mr. Jones warned to the sub-

ject in the pace of his office. "But in all the talk on the subject, no proper emphasis seems to have been given to the possibilities of arranging an expanding distribution. Yes, it is the surest solution to this problem of increased employment.

### Distribution In Infancy

"Even our business press is on record that it is a cliché to say that the problem is one of underconsumption rather than overproduction," Mr. Jones continued. "As if we had so exhausted the possibilities of distributive expansion that any further mention of it was bromidic. My notion is that we haven't even begun to know how to distribute, simply because we have not sufficiently understood it and have reluctantly not given it the dignity of the consideration it deserves. I dare to say that our problem is underconsumption and that this can be corrected as we become conscious of the importance of distribution in the economics of the machine age.

"Most people admit that production and distribution must balance in any sound economy, thus indicating their awareness to the close relation of the two. But, even recognizing this, we are too prone thereafter to spend all our time on production problems. As if distribution would take care of itself by some 'better mousetrap' magic.

"Production and distribution are related essentials, useless each without the other. The plan and program of each involves the other. They must receive balanced emphasis in all our thinking. To stress one and neglect the other, is the surest way to hold progress back.

### Doesn't Go On 'By Itself'

"We have mistakenly thought," Mr. Jones continued, "that our economic problem was one only of production. Distribution was supposed naturally to take care of itself, no matter what the spiral of production. 'Build a better mousetrap, you know,' was the philosophy we relied on simply because in expanding markets, there had always existed sufficient volume to make it possible. But the forced draft under mass production and the unattended lack of balanced distributive attention finally caught us in the ashes of depression.

"The war, with its unnatural productive demands, has thrown us into a synthetic prosperity. For a little time after-war, the necessity of replacing that which we have worn out, may fortify us with a mirage of continued good times. But the

Mr. Jones will be well remembered by veteran readers of the News—his "The Salesman's Place In The World Of Peace That Is To Come" which was published in the Jan. 4, 1943, issue was widely commented on and reprinted.

In this article he emphasizes the need for a greater recognition of the importance of the distributive function, not only from the standpoint of public relations, but to give salesmen a pride in their calling.

almighty fact is that the enduring evolution of the machine age has proceeded into that advanced phase where the law of diminishing returns will come into effect if we longer rest upon the faulty assumption that distribution has the unattended ability to take care of itself.

"Nothing is of more crucial importance than that we kill 'the mousetrap precedent.' It was never a principle. It endured only because we gave its fallacy no reasonable attention. Its error lay hidden in virginal market expansions. Now we must find the way to bring the public to the spot in the wilderness. We must bring them into the market place to enjoy more uses of more products.

"Rather than to let production be the criterion of economic balance, we must accept the exhaustion of all consumer desire as the only possible ceiling of our production activities. Viewed from this realistic angle, since it is impossible ever to roof over human desire to possess more, there can never be any necessity to limit production.

### Antidote to Revolution

"Thus full employment, adequate rewards, security in a free society, taxes to pay for our ugly wars, means for the more convenient public works we require; all these can be made possible by increasing the movement, velocity, and content of distribution. This is the real antidote to revolution. It is the respectable way to maintain our culture, our individualities, and our progress towards a richer order of society. It is the broad road of greatest spiritual hope. It keeps government of us, by us, for us. Otherwise we shall be lost in the shuffle as tools of the State.

"The curse of this 'articulate today' is the multitude of brilliant statements of partial truths that are everywhere appearing. For example, it is stated that employment in agriculture is declining because of the

(Concluded on Page 15, Column 1)

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## 'We Must Convince Salesmen Themselves of Their Importance'

(Concluded from Page 14, Column 5)  
machine age or the desire of farmers to work in the city.

"Nothing is further from the truth if the concept of balanced production-distribution unity is admitted. There was the time when the farmer grew the wheat and a miller ground the flour and the housewife baked the loaves for the week. Now, everyone engaged in putting bread on my kitchen table in daily freshness, properly sliced, healthfully impregnated with sunshine vitamins and sanitarily wrapped . . . every such person and agency involved, not just the grower of wheat, is an agricultural worker. Viewed in this sensible totality, there are today more gainfully employed in essential agricultural services than ever.

### Who Says It's Unproductive?

"How do we dare call the varied essential elements of distribution . . . packing, refrigeration, transportation, warehousing, display, retailing, delivery, financing, servicing, maintenance, consumer promotion . . . 'non-productive' efforts. They are the most productive of all efforts in that they alone make primary production possible. They give it movement and velocity. They give it usefulness at the right time in the right place at less cost than otherwise would be possible. They generate, answer, and satisfy in expanding facilities the increasing social requirements of the richer life.

"Non-productive?" Hell no! What crackpot continues to dare to take that view of our economy?

"The whole truth is that the satisfactory use of the product, as the crowning achievement of an entire group of distributive activities, is the real end of the assembly line. Economic function is entirely to produce usefulness . . . not merely the product . . . and anyone who contributes to usefulness is essential.

### 'Go Milk a Cow'

"Yet these quasi-thinkers ask 'does distribution cost too much?' Nothing costs too much that is essential. Let them go out and milk their own cow if they think so.

"The interests of business always look far ahead. It now views salesmanship as the bright and needed essential. Both in quantity and quality, we have products technically developed and capable of mass production, sufficient to answer practically every known need. And the result is unemployment. What we

need, are the instruments and manners to produce new needs and more needs . . . hence employment. Our economic problem is nothing more than greatly to stimulate more use of more products. That calls for salesmanship."

A happy people is one who is persuaded to use and enjoy more. And only a happy people will continue to endure the taxes necessary to pay the interest to discharge the bonds piled up from the obligations of this war. If these aren't paid, there will be revolution. The only solution is to bring new consumers to the market place to own and enjoy more uses of more products, their greater contentment making them willing to bear the tax burdens. The only instrument capable of that is salesmanship. And the only way to recruit salesmen for this progressive battle ahead is to impress them fundamentally with their high calling.

### Salesmen Are Belittled

"I seriously doubt whether the average salesman has ever realized the importance of his high calling, himself," Mr. Jones continued. "He has often had his ears knocked down

and his commissions cut. He has been called a peddler and kicked off the porch. He has been lashed with contests, and snake-charmed into great momentary achievements.

"But few have given him an organized education, or a feeling of his own importance in the total economic picture. The shop worker has looked down upon him, although it is he who has made the other's continued employment possible. The public thinks him an exaggerating drummer after a commission, rather than an educator of the more abundant life. He has been often set at work without technical training in behaviorism, the arts of persuasion, lessons in deportment or tools. The capital of his own time has been pilfered.

"The sales manager, under stress of forced sales campaigns to gain extra volume to keep the plant from shutting down, has been sore beset by the lack of understanding and sympathy shown by general executives who are all too often quite ignorant of the fundamentals of distribution or of its essentials. He has often little else to resort to than frantically to push, shove, cajol, whip out the added expedient sales performance required to cover up their greed or shortsightedness.

"I have talked to sales managers and salesmen of almost every conceivable enterprise the country over. I have pointed to the dignity of distribution and to the fact that it is

the only hope for the further expansion of the American pattern. I have sincerely explained their high calling as salesmen and their responsibilities in the more abundant future ahead.

"The usual comeback is: 'Gee! Is that me? I never thought of selling that way. That makes me proud I'm a salesman.' Must be that few, until now, have thought of selling as the ennobling art that is most responsible for further advancements in our machine age economy."

### New Pride In Their Job

Mr. Jones feels that a great, abiding conviction can be given the sales executive and his organization of their indispensability in accomplishing an expanding distribution. This will fit them into the entire economic picture in a manner that will increase their sense of responsibility. It will make them more eager to improve their art. It will give them greater tenacity of purpose. They will become more effective.

He feels that such a deep incentive is far more attractive than questionable overrides or commission scales. He is sure that it will cut down personnel turnover, salvage much training waste, and make for more dependable selling performance.

Mr. Jones further feels that the sales executive, as main director of the distributive impulse, must be a journeyman thinker, concerning him-

self with an understanding of all phases of the business, particularly those involved from the shipping platform and into the ultimate use of the product.

The counsel of the sales executive should be sought on engineering, design, accounting, transportation, as well as the more direct distributive functions. He particularly feels that the time has come, considering the necessity of a more effective distribution, when the president and general manager must get better acquainted with the sales executive.

Finally Mr. Jones emphasizes the importance of winning a new public respect for the distributive function, a respect that will recognize the values of its component elements to be as essential as production . . . and that only the shyster will attempt to buy wholesale.

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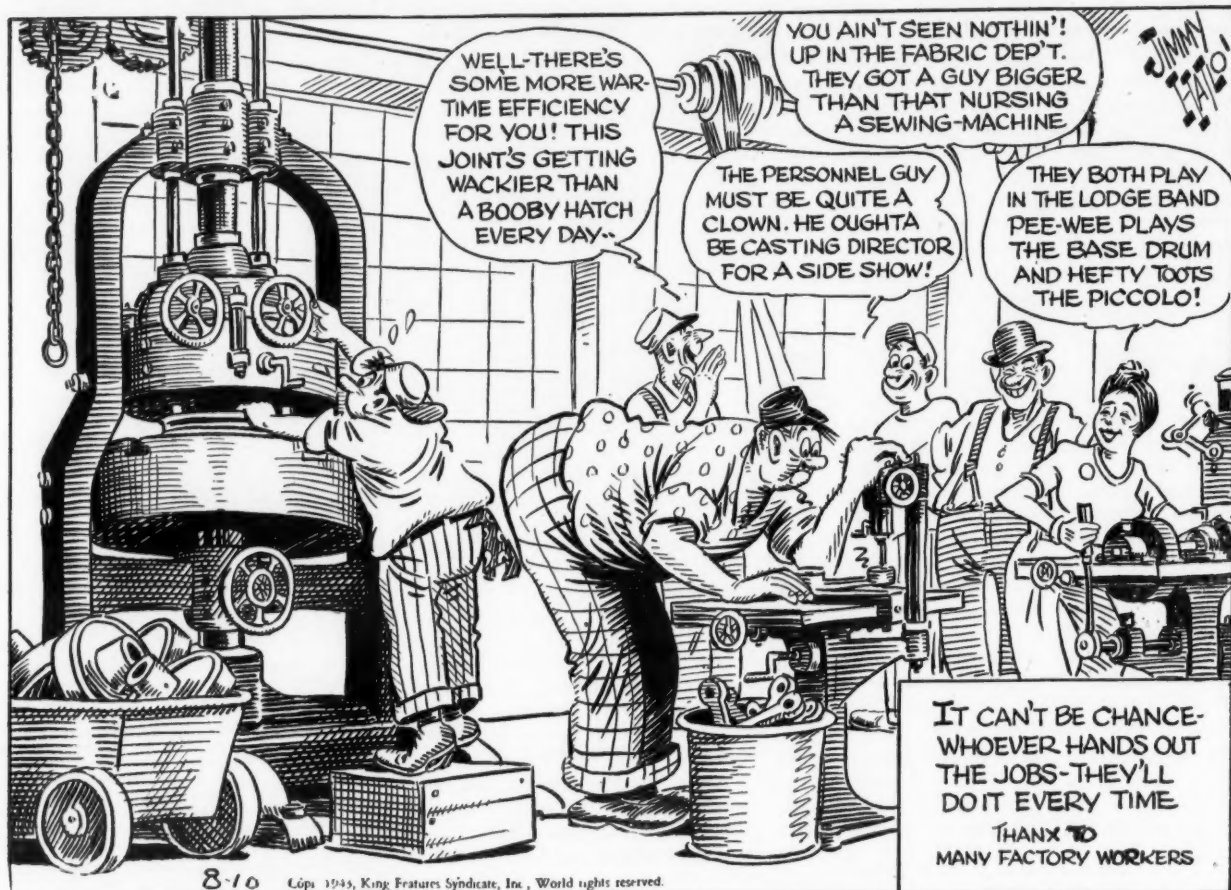
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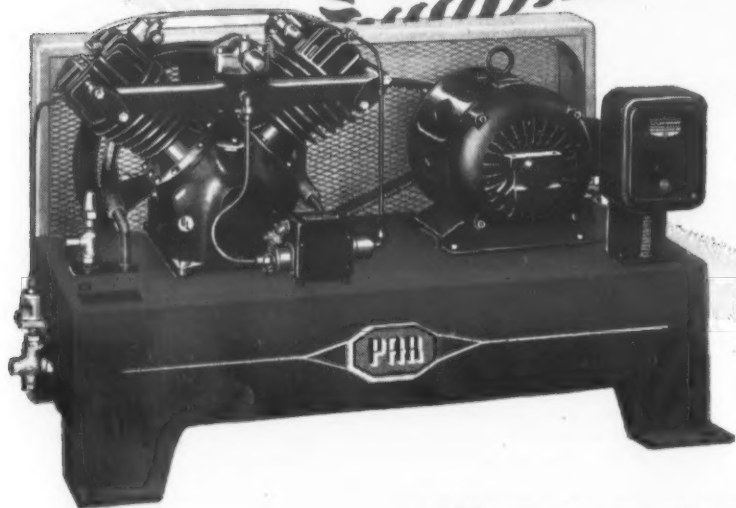


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VOLUME 45, No. 1, SERIAL No. 842, MAY 7, 1945

## You Won't Have Long To Wait

**A** CROSS the top of this issue's front page is something we've been saving for a long time: a new "banner." Designed last September, we've held it until the end of major hostilities in Europe.

Also we have withheld, until this wonderful moment, announcement of "Great Day Coming!"—the book which is described in the column, "Inside Dope."

This book has been written to serve as a guide to the resumption of refrigeration, air conditioning, and appliance merchandising.

Although we still have a terrific war to fight against Japan, so great is the nation's productive capacity that limited reconversion of our facilities to the manufacture of badly needed consumers durable goods can begin very soon.

Watch for the resumption of "spot" authorizations—even in areas of hitherto critical labor shortage. Watch, too, for the faster-than-expected elimination of the War Production Board's "L" and "M" orders.

Already the cutbacks of orders for war items have begun. The tight labor market is beginning to loosen. Steel, aluminum, copper, zinc, and other needed raw materials will soon be available for the production of refrigerators and home appliances.

Of course it will take some months for the plant reconversion process to be completed, and some manufacturers may be so tied up with war orders needed for the Pacific theater that they won't be able to get under way at all this year.

Nevertheless, the green signal light for limited reconversion has been turned on, and it looks as if by the end of the year we can reopen for business at the old stand.

We've waited a long time!

While awaiting the arrival of those home appliances at the shipping entrance to your store, we recommend sincerely that you improve your time by reading "Great Day Coming!"

It attempts to assay the postwar markets for all types of refrigeration equipment (including some brand new applications); for air conditioning of every variety; for the automatic home laundry, the range, and the dishwasher; for radio, television, and new electronic devices—for everything you and your customers have been dreaming about these last three years.


It also studies the changing distribution picture, and suggests how you can revamp your organization and merchandising policies to fit into new circumstances with which you will be faced.

We hope it will answer a great many of your questions. And we hope, further, that it won't be so very long before you can begin putting into actual practice the things it talks about.

That Great Day is not only coming—it will soon be here.



# ***FRESH, COLD MILK for the SHIPYARD....***

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PORTABLE REFRIGERATED COOLER... WITH  
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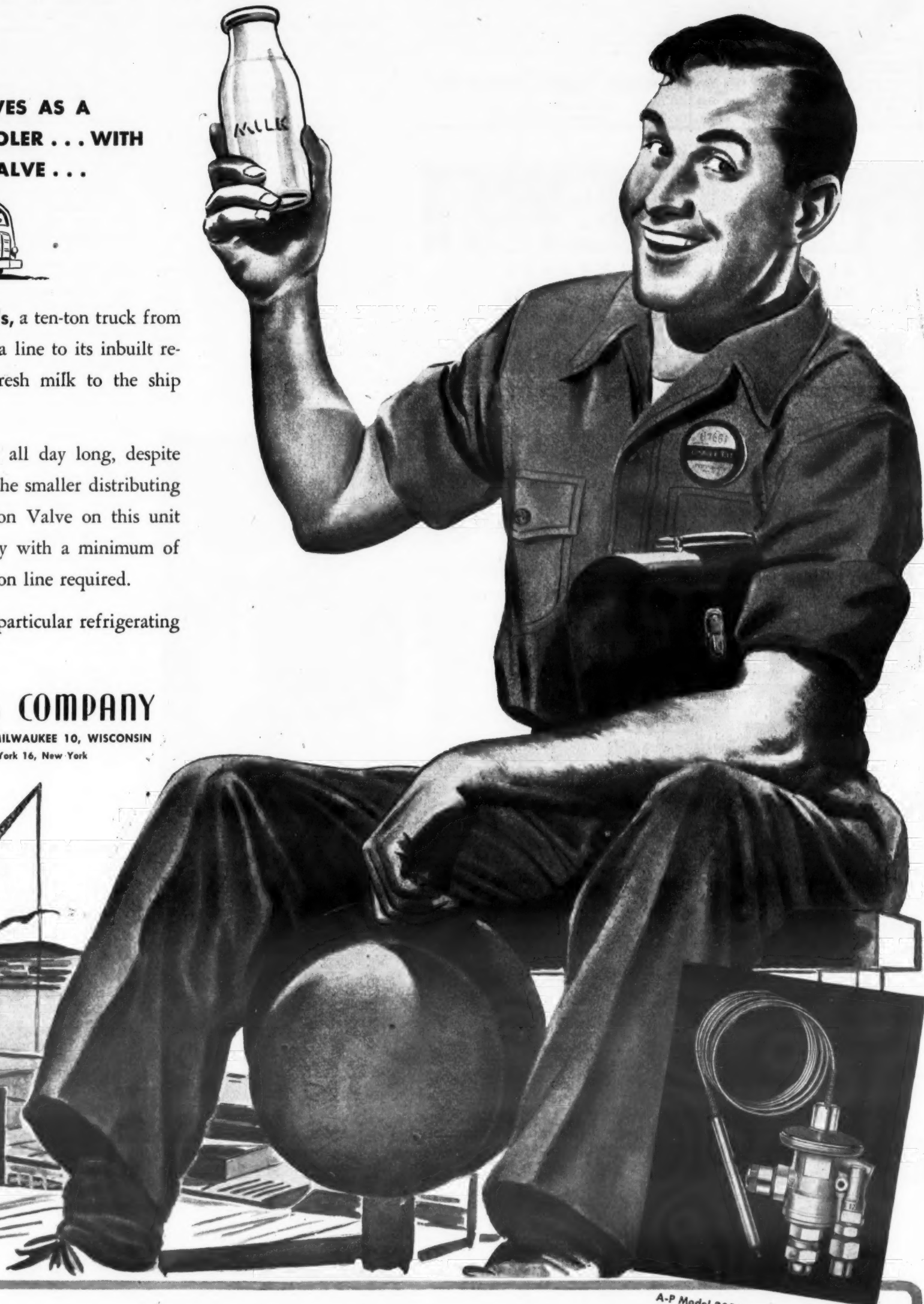
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## Humidity and Air Circulation (3)

## EXAMPLE OF DEHYDRATION

Suppose that the service man finds that even within only a few days, beef stored in a cooler is rapidly drying out, and getting that darkened, burned appearance. This is an indication of either: (1) Too low relative humidity of the air. (2) Too rapid air circulation or (3) Both.

What can he do about it? He can check the internal volume of the cooler against the manufacturers c.f.m. rating for the blower coil and perhaps vary the speed of the fan motor, adjust the fan-blade pitch, or put on a different size fan. More likely, however, he will find that the R.H. (relative humidity) is down. (He can check this with a sling psychrometer or a substitute made from a pocket thermometer with a small wet cloth). If it is below 80%, it is suspicious for unwrapped fresh meats, vegetables, and fruits. So he finds the R.H. to be 68%, definitely too low and the main reason for the excessive drying-out of

the foods. Now what can he do about it?

He finds the average temperature of the cooler 40° F. and he checks the suction pressure and finds that it averages 18 p.s.i. ("Freon-12") during the latter part of the running cycle. This corresponds to a temperature of 15° F.—meaning that the average coil temperature is 15° F. and the temperature difference between the coil and the cooler is 25° F.—too much by 10°.

## CAUSES

This means that: (1) The coil is too small, (2) The condensing unit capacity is too great for the coil or (3) Both.

He may increase the coil capacity by increasing the rate of air circulation (but not more than two times per minute) but in this instance that will not be enough. On checking he may find that the coil simply is too small and the only remedy is to put in a larger one.

On the other hand, he may find that the coil itself has a great enough capacity to do the job but that the hourly B.t.u. capacity of the machine is much greater than that of the coil.

In order for the machine to adjust its larger capacity to that of the lower capacity coil, the suction pressure of the machine has dropped until a balance is reached, for while the suction pressure is going down the capacity of the condensing unit is also going down (the capacity of a compressor goes up with a rise in suction pressure and down with a

drop in suction pressure) and the capacity of the coil is going up (the capacity of a coil rises as its temperature falls, i.e., as the TD rises, and falls as the coil temperature rises, i.e., as the TD falls) until finally the suction pressure comes to the balance point where the capacity of the machine equals that of the coil.

## DECREASE CAPACITY OF CONDENSING UNIT

So, to increase the average coil temperature it is necessary to decrease the condensing unit capacity. This can be done in several ways as described in article "Varying the Capacity of a Condensing Unit" which began in the Sept. 25, 1944 issue. As mentioned therein the easiest way, if it is a belt driven unit, is simply to reduce the compressor speed by putting on a smaller motor pulley.

In the above case the service man would put on a motor pulley perhaps 20 or 25% smaller or at least until the average suction pressure rose to about 25 p.s.i. which corresponds to 25° F.

This would give a TD between coil and air of 15° instead of 25° and the R.H. would rise considerably. If the coil were not undersize it should be quite practical to get the R.H. to 85% or above which should correct the excessive drying condition.

## COIL TOO SMALL

Raising the suction pressure and condensing unit capacity would lower (Concluded on next page, Col. 3)

Fig. 3. Where Blower Coil Is Placed in Store Cooler

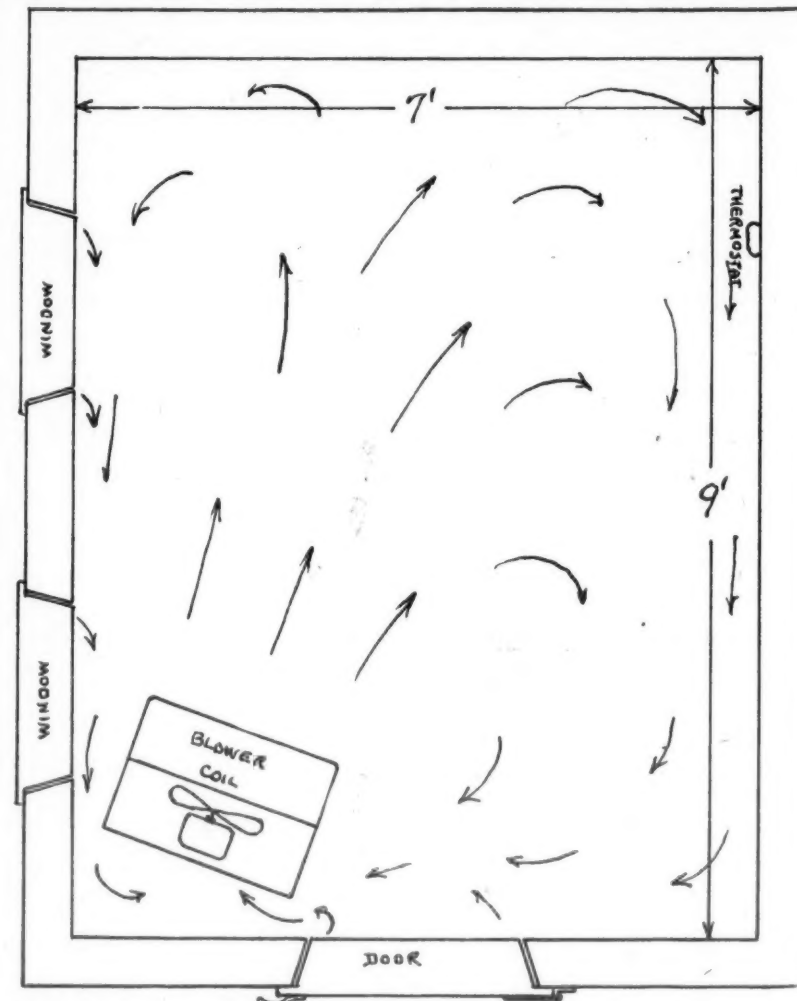


Fig. 3—In this typical store cooler installation the recommended position of the blower coil is in the corner at the door end, as shown. Note also location of thermostat.

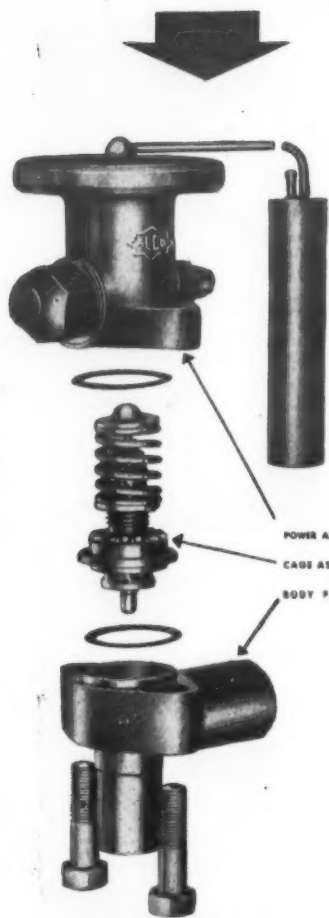
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Fig. 4. Possible Arrangement in Cooler With Shelves

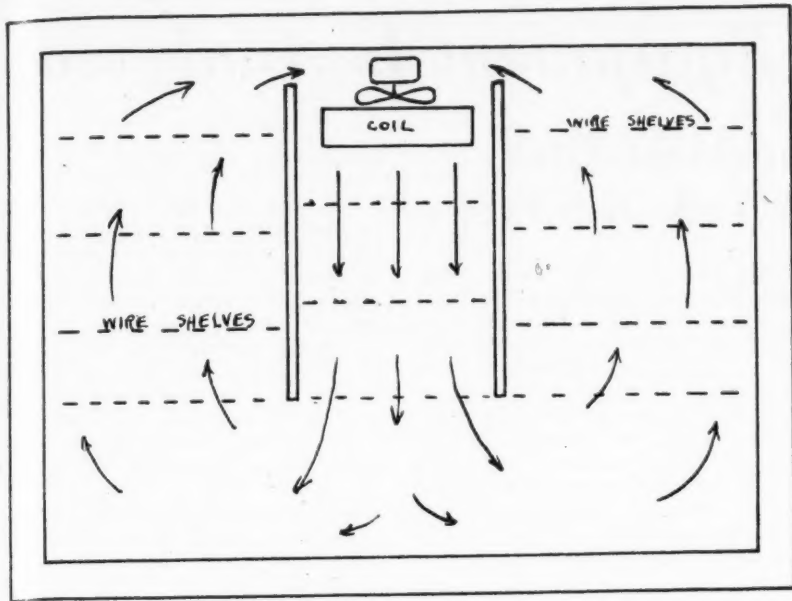


Fig. 4—Here is one way to install a blower coil unit in a cooler fitted with shelves. Note how air passageways are created.

Fig. 5. Blocked Air Passage Causes Poor Operation

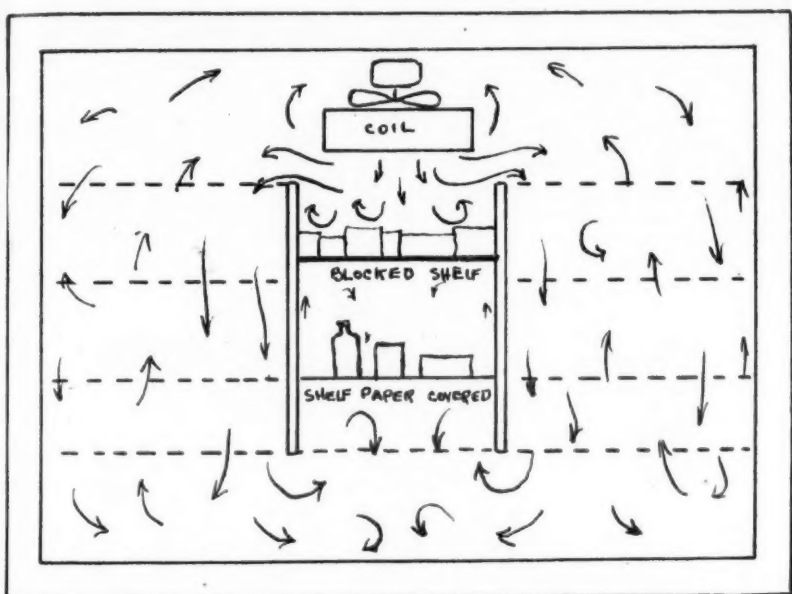


Fig. 5—Blocked air passages as shown here mean inadequate heat transfer from the product to the coil, and possible sliming of the products.

## Humidity and Air Circulation

(Concluded from preceding page)  
the percentage of running time and since, at the same time the capacity of the coil has been lowered, he may find that he can no longer maintain 40°. If this is true, then the coil definitely is too small and will have to be replaced.

Suppose, instead of excessive drying of the meat, there was a contrary condition; the surface of the meat was slimy and showed patches of green mold. This indicated: (1) too slow a rate of air circulation, (2) warm, moist air coming into the

cooler when a door is opened, striking the meat before it goes through the evaporator coil.

### CAUSES

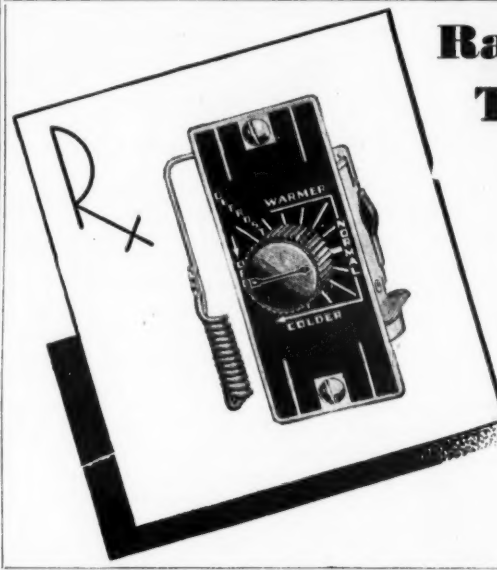
He may find that the fan motor is not running full speed (low-voltage, tight bearings, etc.) so that it is not changing the air 1½ to 2 times per minute. He may find the air circulation through the coil blocked by ice due to the controls not being set to obtain a clean defrost between running cycles. (An overloaded installation may ice up due to the fact that the unit is forced to run continuously or nearly so to remove the heat and thus there simply isn't enough "off cycle" time for the ice on the coil to melt off).

Food or other material may be piled in such a manner as to block

circulation either generally or in part of the cooler. All of these things will also cause a rise in temperature in the cooler, for inadequate circulation means inadequate heat transfer from the product to the coil.

### LOCATING THE EVAPORATOR

A coil should be placed in the part of the cooler that will allow it to draw in the air let in by opening the door or service window, through the coil where it is chilled below its dewpoint and consequently condenses its excess moisture out and deposits it on the cold coil. If it strikes the meat first this excess moisture is condensed out on the cold meat which becomes wet and in this wet surface, bacteria, molds, and enzymes grow readily and cause the slimy, moldy appearance.



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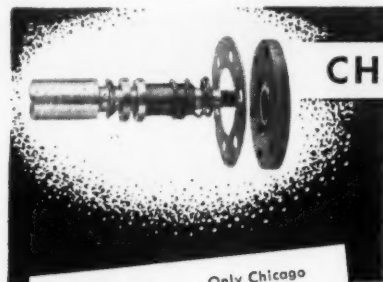
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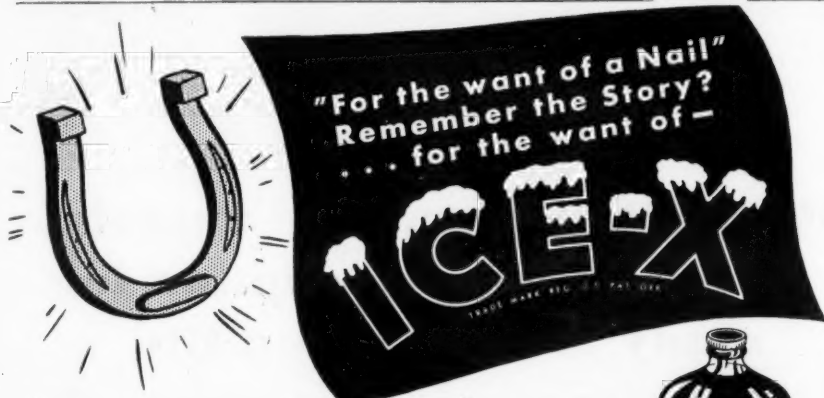
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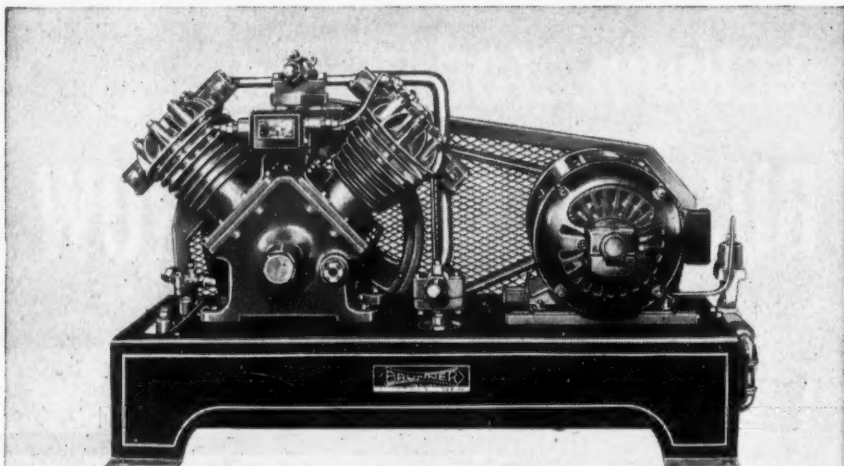


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Whether you are now prepared to place an order or are contemplating a post-war purchase of a refrigerated show case or cabinet, remember that its efficiency, reliability and economy depend upon its refrigeration condensing unit. Specify Brunner Condensing Units and be sure of a cabinet or case that will give you many years of reliable and economical operation.



## Design & Maintenance of Locker Storage, Food Freezing Equipment Is Analyzed

### Proper Load Calculation Most Vital Factor in Design, Lock Tells R.S.E.S.

MONTREAL, Canada — Attention to some fundamental principles of refrigeration design and installation when fitting out a locker plant or low temperature job will save a lot of trouble later, R. H. Lock, general manager of J. H. Lock & Sons, Ltd., declared in speaking before the recent R.S.E.S. conference here.

Mr. Lock outlined seven main points which should be given consideration in these types of installations.

#### Compressor Capacity

Most important step in the design, said Mr. Lock, is to calculate the load properly. Unlike most other applications it is impossible to design for a definite uniform daily load. For instance, 20% of the lockers may be refilled during one day, and the next nothing. The quantity and temperature of the goods will vary considerably.

Since all locker storages will have a different traffic in and out, it would be impossible to work out the insulation losses and product load for each locker storage, without using some rule of thumb method, because the owner cannot forecast what his daily product load will be.

It, therefore, has developed over a period of years, that a rule of thumb method for arriving at refrigeration requirements, for locker storages, works out very well for the average storage. This rule is to allow a certain number of B.t.u. per 100 lockers, for the average conditions assuming, of course, certain standards of insulation, sun load on roofs, etc.

Mr. Lock said that one of the requirements to be fulfilled, in considering refrigeration equipment for installation in locker plants by the Administrator, is that normally, a 1½ to 2-hp. compressor capacity, per 100 lockers is adequate.

This means approximately 6,400 to 8,400 B.t.u. per hour, or ½ to ¾ tons at -15° refrigerant temperature per 100 lockers. This, of course, does not provide for chilling and aging rooms, but simply the storage room, based on there being no sharp freezer.

Mr. Lock reported one recommendation which allows for a product load equal to freezing 2 lbs. of product per day for each locker installed, another allows 3 lbs. One installation uses a 5-hp. unit to handle 450 lockers, which works out to approximately 5,000 B.t.u. per hour or slightly less than ½ a ton of refrigeration, per 100 lockers.

For comparison purposes, Mr. Lock took a typical locker room about 22 ft. x 15 ft. x 10 ft. at 0° F. and having 300 lockers, calculated the load, based on 6 inch insulation and 3 lbs. of product per locker entering daily, and found the hourly load to be 13,000 B.t.u. or 4,330 B.t.u. per 100 lockers or 6,480 B.t.u. allowing for 16 hrs. running time. Therefore, ½ ton per 100 lockers would seem to be about right, he declared.

Good general practice seems to call for a refrigerant temperature of not more than 10° to 15° below room temperature, and the closer to room temperature the more capacity will be obtained out of the condensing unit. Therefore, the condensing unit should be selected for a definite refrigerant temperature, as close to room temperature as the evaporator surface will permit, the speaker recommended.

#### Cooling Surface

A temperature difference up to 15°, between room and refrigerant, will produce the relative humidity required to prevent excess shrinkage, declared Mr. Lock. Therefore, for the 300 typical locker storage, he calculates that it would require 108 sq. ft. of cooling surface per 100 lockers, using 4 B.t.u. as a coefficient between cooling surface and room for natural air movement.

If, for example, it were necessary for the condensing unit to maintain a refrigerant temperature of say -25°, to maintain a 0° room, it would indicate that there is not sufficient

cooling surface in the room. The resultant lower capacity of the unit might penalize the condensing unit to such an extent that it would have to run continuously or that it could not maintain room temperature at all. The customer would naturally blame the size of the unit whereas lack of adequate cooling surface is the cause and by adding the required cooling surface, the unit would handle the load satisfactorily.

"Lots of cooling surface is the best recommendation for any type of installation, because it permits higher humidities, less frosting, and permits the condensing unit to operate at the highest suction pressure possible and consequently at greater efficiency and capacity," the speaker said.

"A good many years experience has proven that you cannot have too much cooling surface. However, there is a point you reach, when the additional benefits derived, are not worth the additional price.

"A good practice is to calculate the amount required to handle the load, using accepted coefficients, and then add up to 25% additional surface. If the customer can be sold on the benefits of lots of surface he is usually willing to pay for it.

#### Expansion Valves

"In selecting the number of expansion valves for the job it should be remembered that the smaller the diameter of tubing or pipe and the longer the circuit in each coil the greater the friction loss and the lower the suction pressure required to maintain room temperature. Lower temperatures mean rarefied gas and only exaggerate the condition.

"On account of this false suction pressure the condensing unit may not be able to deliver the required capacity, and here again, the customer blames the size of the condensing unit.

"It, therefore, has been good general practice on low pressure equipment to supply one thermal valve for each coil when made up with ½ inch copper tubing.

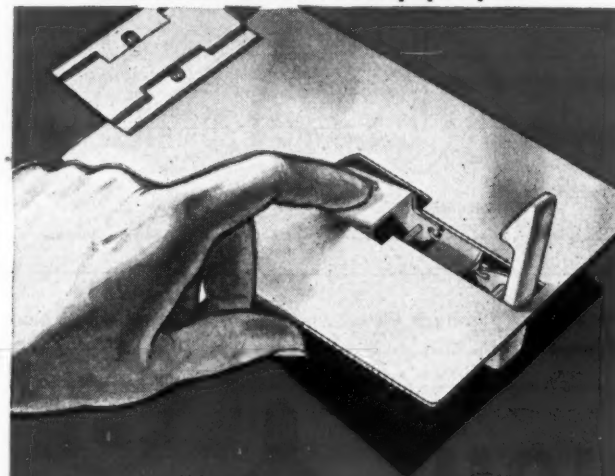
"However, when using 1¼ inch steel pipe it is possible to handle up to 1,000 or 2,000 ft. of coil on one valve depending on the friction loss.

"I have in mind a low temperature testing job for the government, which has about 1,200 ft. of 1¼ inch pipe coil and using "Freon" to maintain -65° F. There were five coils, each with its own thermal valve.

"Everything worked splendidly until the room got down to about -30°. Then the valves would not feed evenly and it was impossible to adjust them so they would. These

(Continued on next page, Col. 1)

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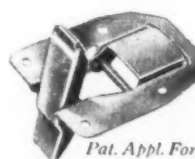
#### PRESS to open!

Pressure on the trigger releases the bolt, and the door pops open.



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Pressure on the bolt, when the door is closed, locks it shut.



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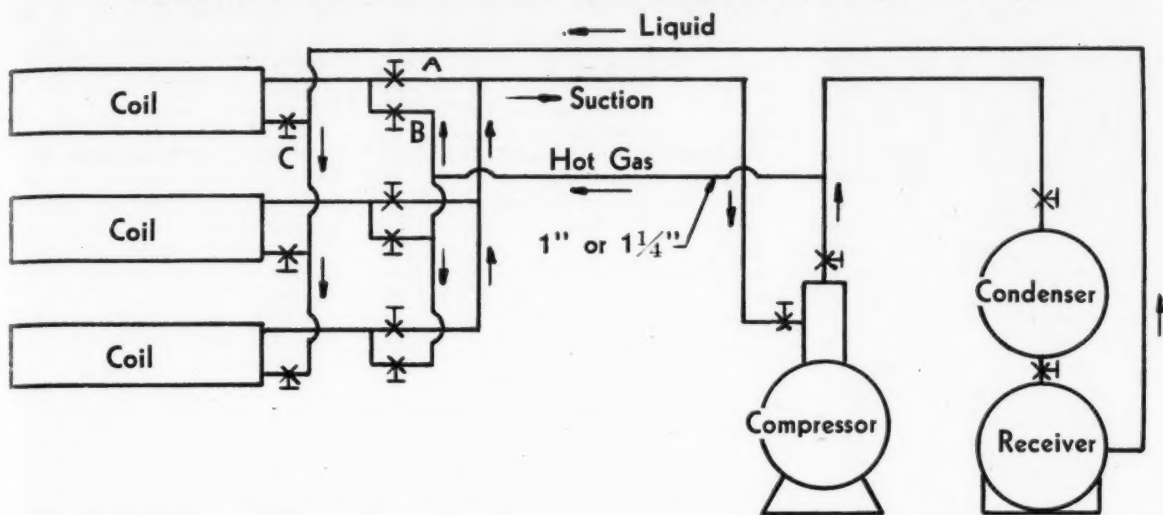
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# Suggested 'Hot Gas' Defrost Method for Locker Plants



The defrosting plan for locker plants suggested by R. H. Lock employs the principle that hot gas will go to the coldest spot and condense. It can be used only where there is more than one coil or cold room and a tank so that the other room or tank can supply the compressor with gas to pump to the room.

To defrost one room: (1) close suction valve A on the coil or room to be defrosted; (2) open valve B on hot gas connection to this coil; (3) open expansion

valve C (if a thermo valve, open the bypass); (4) leave other coils or rooms operating with compressor running.

The coil being defrosted now acts as a condenser with the hot gas melting the ice so that it can be knocked off with a hammer or stick. When defrosting is completed, close the hot gas valve and open the suction valve, allowing sufficient time to pump out excess liquid before adjusting the expansion valve.

## Defrosting Problem Must Be Considered

(Continued from preceding page) adjustments had to be made in a temperature -30° to -65°.

"On this particular installation these thermal valves stopped feeding entirely at -40°, even though the adjustment was open wide. It was soon realized that these standard thermal valves would not feed properly, over the whole pull down range, from 90° to -65° and would cease entirely before the desired room temperature was reached, and that two separate valves having different ranges were necessary so that one valve could be shut off and the other turned on when they desired.

"Room temperature was reached by changing the five valve hook up to one valve, and connecting the coils in series, the trouble with uneven feeding was immediately overcome and by using a new valve recently developed for this extreme low temperature work, all the

troubles were quickly overcome. This new type of valve, which is really two valves opposing one another, has been described in our trade papers and before this society, so I am sure you are all familiar with it.

"However, the less expansion valves you have on low temperature work, the less adjustment trouble you will experience. Then again on these low temperature jobs keep your thermal valves and electric solenoid valves outside the cold rooms. How much easier it is to adjust them and how much better the solenoid valves work in warm rooms.

### Defrosting

"In selecting the type of evaporators or cooling surface, for locker storage rooms or sharp freezers, consideration should be given to the removal of frost.

"On ammonia installations it is quite simple to run a hot gas line to each of the coils or rooms and thus defrost the coils in a matter of 15 minutes, without materially affecting the room temperature.

"To do this a connection is made in the discharge line between the compressor and condenser, and a hot

gas line is carried up to the suction outlet of each coil, or each room, with a separate valve at this point.

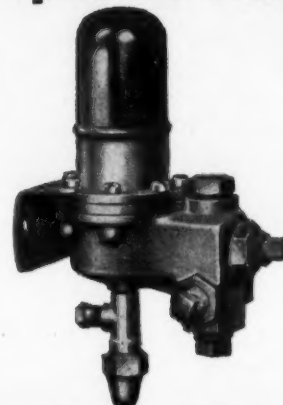
"When defrosting some of the discharge, gas passes into the suction connection of the coil, and the coil being cold, liquefies this gas into a much smaller volume, and at condensing pressure. Other hot gas then rushes in to take its place.

"By using a by-pass around the (Concluded on next page, Col. 1)

## SNAP ACTION VALVES for Multiple Temperature

Adjustable from 20" of vacuum to 63 lbs. pressure

Proven in Performance



Differential 7 lbs. minimum to 29 lbs. max.

Free from bellows strain

Here is a marvelous precision valve designed for systems with more than one coil, operated from the same compressor. Any variety of units such as ice cream cabinets, soda fountains, back bars, water coolers, candy counters, beer coils, storage rooms, etc., may be connected to a single compressor unit by the use of an Aminco Snap Action Valve.

This means more today than ever before, what with the difficulties experienced by the serviceman in satisfying his trade with "too little" material for the work to be done.

Aminco Snap Action Valves are not an experiment. They have proven their worth in years of actual service and are doubly useful under today's conditions when one piece of equipment must do the work of several.

May be used with any refrigerant except ammonia. For flooded as well as dry gas types or any combination of either.

As always, our company is definitely interested in the survival of the refrigeration industry and is doing its utmost to cooperate with established operators.

### AMERICAN INJECTOR COMPANY

1481 Fourteenth Avenue DETROIT 16, MICHIGAN  
Van D. Clothier, 1015 E. 16th St., Los Angeles, Calif.  
George I. Boone, 789 G. M. Bldg., 1775 Broadway, New York 19, N. Y.  
William H. Cody, 2nd Unit, 10th Floor, Santa Fe Bldg., Dallas, Texas  
Export: Borg-Warner International Corp., 310 S. Michigan Ave., Chicago, Ill.

THINGS TO COME . . .

LAU POSTWAR BLOWER

IMPROVEMENTS IN BLOWERS, TOO!

## LOOK TO LAU TO LEAD in product development in this field

During the war, Lau has developed or assisted in the development of many very important war products—some of them highly secretive to this day. The special blowers that Lau builds for the Boeing B-29 Superfortress auxiliary power unit, for Aleutian and Russian hangar heating, for ventilation of power and radar trailer units, for refrigerated food storage units, and innumerable other purposes, have had to be engineered to meet performance tests under conditions which were unheard of, and entirely unconsidered, prior to the war. The improvements engineered into Lau Blowers for direct and indirect war applications will be available in Lau Blowers for general industrial and commercial purposes after the war.

For the present, our entire production is devoted to wartime assignments including a percentage of essential civilian orders on priority. If you are now, or in the future expect to be in the market for blowers, send us your name so we can keep you posted on these new developments as they come about.

**THE LAU BLOWER COMPANY**  
DAYTON 7, OHIO, U. S. A.  
WORLD'S LARGEST MANUFACTURER OF FURNACE BLOWERS  
Engineers and fabricators of general Air Handling Equipment  
Single Inlet and Double Inlet Blowers • Propeller Fans • Accessories



# THERMOBANK

by KRAMER

THE ONLY COMPLETELY AUTOMATIC SYSTEM for FREEZING TEMPERATURES

- NO BRINE SPRAY
- NO WATER SPRAY
- NO ELECTRIC HEATERS

PAT. APPLIED FOR

**KRAMER-TRENTON CO. Trenton, N. J.**

Write for Bulletin TV-345 N2



## 'The Customer Does Not Want to Scrape Frost Off Coils,' Lock Emphasizes

(Concluded from preceding page)

thermal valve, the liquified gas then passes out into the main liquid line. Since hot gas is continually passing through the coil and being condensed, the frost starts to drop off in chunks almost immediately.

"Care must be taken, however, to remove the bulbs of thermal valves before passing hot gas into the suction side of the coil, otherwise the heat may affect the thermal valve.

"Care must also be taken in reverting back to normal operation, to prevent the liquid which remains in the coil from slopping back to the

compressor. This can be controlled by opening the suction valve on the defrosted coil gradually, until all the liquid in the coil has been boiled off.

"There is no reason why this same method cannot be used on low pressure installations by simply installing suction valves on each coil, and a bypass around each thermal valve. However, much more rapid defrosting may be expected from ammonia than low pressure equipment, for the reason that ammonia gas, at the standard condensing temperature of 86°, contains 631 B.t.u. per lb. of gas, while methyl chloride contains 222 and "Freon" only 87. However,

this method is much superior, and should be developed more than it has, in the low pressure field.

"On a recent installation in a room for testing small arms and automatic rifles under actual firing conditions at -50° F., blower units of the dry type were successfully used.

"In this case the frost consisted of light fluff, most of which was blown off as quickly as formed. Electric heating elements were used and the blowers were equipped with front and rear louvers arranged for closing so that the air was simply recirculated through the blower units and over the heating elements. Defrosting was done quickly without materially affecting the room temperature.

"Other effective means of defrosting unit coolers working on low temperature work, include water spray, brine spray, and warm air circulation. They all have their advantages,

and the type selected depends upon the requirements and the facilities available.

"But, some provision should be made. The customer does not want to have to scrape frost off coils, and in lots of cases he cannot thoroughly clean them. This method is so messy and cumbersome that the owner does not defrost when he should, and consequently, heavy frost builds up, thus cutting down the efficiency of his plant, increasing the running time and cost of operation. Therefore, the defrosting system should be simple, quick, and clean.

### Auxiliary Receivers

"One of the many faults to be found in the design of refrigerating plants in locker storages is the lack of adequate storage facilities for the liquid refrigerant when pumping part, or all, of the system down for servicing, or making additions or alterations to the equipment.

"Most condensing units both in the ammonia and in the low pressure field, particularly if they have combination shell and coil or shell and tube condenser receivers, do not have sufficient capacity to store up all, or even half the entire charge required for the plant. This is more noticeable in plants where steel pipe coils are used.

"Consequently, provision should be made for this storage by means of an auxiliary receiver, mounted on the floor alongside and lower than the condensing unit, so the liquid will drain into this auxiliary receiver. Some people look upon auxiliary receivers with awe, but believe me, they are well worth while and will save a lot of grief and expense to the owner.

"How many times have you had to blow out some of the charge before you could pump down a room or a complete system? I would venture to say, you have all had to do it, many times. And how many times have you had to recharge the unit—all because some one did not provide an auxiliary receiver?

"The manufacturers of condensing units, could not be expected to include a large enough receiver, on every size unit, to allow for both the minimum and maximum amount of oil that might be required.

"The importance of adequate receiver capacity becomes greater as the capacity and number of rooms or loads increase. For instance, in a recent installation of a large ice cream plant, where they have a battery of five direct expansion ice cream freezers, an ice cream hardening room about 40 ft. x 75 ft. held at -30° to -40° with thousands of feet

of pipe, a popsicle tank requiring -30° brine, a two stage ammonia system consisting of a 7½ x 5 booster compressor operating at 10 inches of vacuum and pumping into a 9 x 9 compressor, about 2,500 lbs. of ammonia was required.

"When the ice cream freezers and popsicle tank were shut down after the day's run, and as the hardening room temperature came down, a large quantity of refrigerant ordinarily being circulated, had to be stored up in the receiver ready for the next day.

"Provision was made for this, in selecting the size of the receiver which was 36 inches in diameter x 18 ft. long, representing a storage capacity of some 4,500 lbs. of ammonia when full. The height in the receiver gauge glass would vary from morning to night as much as 12 inches representing some 2,000 lbs. You can readily see why sufficient storage capacity is necessary.

"I mention this larger job simply because I believe it will leave a more lasting impression of the necessity of providing ample additional receiver capacity where the amount of oil is greater than average, no matter whether it is a 1 hp. or a 500-hp. job.

### Sizing of Mains

"Another source of trouble that is too frequently encountered on low temperature installations is suction lines which are too small. The lower the temperature the larger the suction line required to handle the gas because the gas becomes rarer as the temperature goes down.

"The condensing unit manufacturers supply a suction inlet valve whose size will handle the capacity of the compressor for most all medium temperature applications, but in most cases on low temperature work it will require a suction line one or two sizes larger than the suction inlet valve.

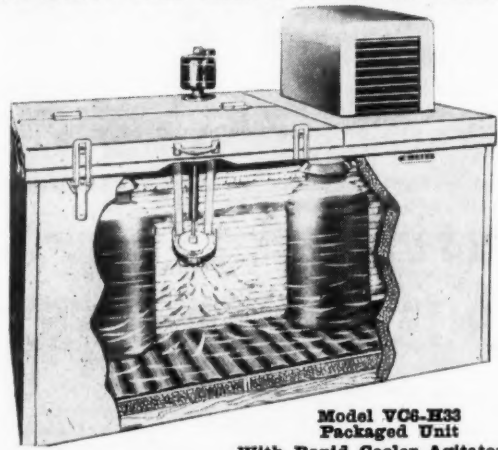
"There are tables published which give the tons of refrigeration which the various size lines will carry at the various suction pressures and it is recommended that you consult these.

"If your lines are too small, it means the compressor has to operate on a much lower suction pressure than would otherwise be required with a consequent reduction in capacity. This reduction might be enough to make the customer believe the compressor is too small.

"In conclusion let me suggest when designing a refrigeration system that great care be given to the following:

1. Condensing unit capacity.
2. Condensing unit suction temperature.
3. Evaporator surface (balance this with room load and refrigerant temperature then add up to 25% for safety).
4. Select the correct number and capacity of thermal valves. Use a minimum number in each room.
5. Provide suitable means for defrosting low temperature coils.
6. Provide adequate receiver capacity by means of auxiliary receivers for condensing units.
7. Select the proper size suction mains."

MILK COOLING IS BIG BUSINESS . . . ARE YOU GETTING YOUR SHARE?  
WILSON DEALERS ARE! IF YOU HAVE MODERN SALES AND SERVICE, WRITE NOW.



Model VC6-H33  
Packaged Unit  
With Rapid Cooler Agitator

## WILSON

### SYSTEMS OF MILK COOLING

A TYPE FOR EVERY REQUIREMENT

#### 3. Verti-Coil with RAPID-COOLER AGITATOR

- The Wilson Verti-Coil Cooler equipped with the RAPID-COOLER AGITATOR (Pat.) WILL COOL TWICE THE CABINET CAPACITY DAILY WITH EXTREME RAPIDITY.
- ALL WILSON MILK COOLERS ARE NOTED FOR: RAPID AND UNIFORM COOLING. MAXIMUM COOLING EFFICIENCY. LOW COST OF OPERATION. LIFE-TESTED CONSTRUCTION.

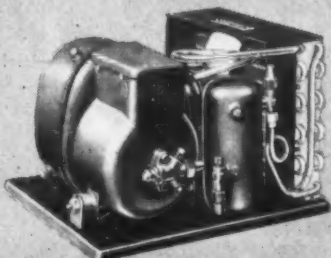
This advertisement is one of a series on Wilson Commercial Refrigeration  
**WILSON CABINET CO.** SMYRNA DELAWARE

Precision to  
 $\frac{1}{1,000,000}$  inch helps . . .

when you *Sell Servel*\*

\*Servel's new "Supermetic" condensing units will serve dealers and fixture manufacturers in every vital field

1. STORE FIXTURES
2. MILK COOLERS
3. HOME LOCKERS
4. BEVERAGE COOLERS
5. VENDING MACHINES
6. ROOM COOLERS
7. FARM FREEZERS
8. WATER COOLERS
9. INDUSTRIAL COOLING
10. VEHICLE REFRIGERATION



If you've ever worked with tolerances of a thousandth inch, you can appreciate how small a millionth is. Yet this infinitesimally tiny measurement is one of the big reasons for your success in selling Servel condensing units.

Here's the reason why: All surfaces which are subject to friction in operation in Servel condensing units—cylinder bores and pistons, crankshafts and bearings, etc.—are precision-tested by a machine so delicate that it measures and records variations of one one-millionth of an inch!

With the aid of this machine, Servel engineers assure highly finished surfaces that will not scuff or abrade, and which will afford the most effective lubrication of the parts. Further, it is then possible to machine in the required fits—no "running in" or "freeing up" is necessary.

Such precise manufacturing methods help explain the success of Servel condensing units during the past twenty years. They are one of the big reasons why Servel units have earned a reputation for dependable, economical service. And they are your guarantee that the new Servel units available after the war will continue to merit their high acceptability with all users of condensing units.

FREE: For advance information about Servel's post-war line of condensing units, write for the new folder, "Servel Supermetic" which will be off the press shortly. Address Servel, Inc., Dept. RN, Evansville 20, Indiana.



**SERVEL, Inc.**

Electric Refrigeration Division, Evansville 20, Indiana

Manufacturers of  
**COMMERCIAL REFRIGERATION**

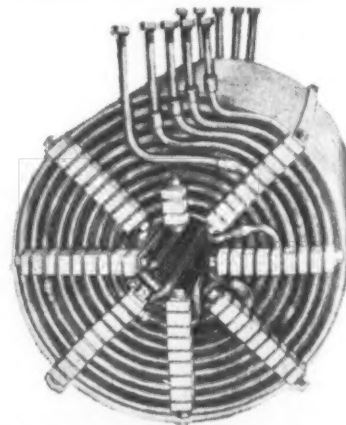
Look for the "LACROSSE" emblem for Assurance of Quality and Performance.

Walk-In, Beer Dispensing and Beverage Coolers

BLUE RIBBON FARM MILK COOLERS

**LaCrosse Novelty Box Mfg. Co.**  
La Crosse, Wisconsin

INTO THIS  
COIL  
WE BENT  
half a mile of  
COPPER TUBING



Here's a job typical of Swan's skill in precision pipe and tube bending. A certain naval condenser unit takes a lot of copper tubing—two tons of it! Half a mile of it! To be bent into a coil no bigger than a small clothes closet. Thermal requirements for maximum efficiency of the unit make necessary the placement of the coil surfaces with great precision in all three dimensions.

Swan Engineering did it!

And in quantity!

And on time!

Use our advisory engineering service in connection with your bending problems. Swan Engineering will quote promptly on bending jobs large or small, simple or complicated, in any of the usual metals or alloys including stainless steel and aluminum. Send your bending to Swan!

**SWAN ENGINEERING COMPANY, Inc.**  
748 Frelinghuysen Ave. Newark 5, N. J.



## Complete Meals Are Precooked and Frozen On Disposable Plates by New Process

### System Developed by Maxson Includes Special Oven to Thaw & Heat Food in 15 Minutes

NEW YORK CITY—Development of a new frozen food process, in which partially precooked meals are frozen on individual disposable plates for storage in home freezers until final cooking in a special oven, has been announced by the Maxson Food Systems here.

This process is the result of experiments by W. L. Maxson, president of the parent firm, the W. L. Maxson Corp. Mr. Maxson is the inventor of the automatic device for gasoline pumps which instantly records the price as the gasoline is pumped.

The processing of freezing of foods for the Maxson system is being handled in a food plant at Queens Village, N. Y., which has a minimum capacity of many thousands of meals daily. At present the entire production is going to the Armed Forces.

All the cooking and freezing is accomplished on a conveyor system, with steaks, chops, and other items being carried through an oven at the exact speed for efficient pre-cooking, it is claimed. Freezing room in the plant is said to have a capacity of more than one million pounds of food.

Precooking of the various foods that make up a complete frozen "meal" is adjusted so that the final 15-minute warm-up period just before serving will provide for "even" cooking of both vegetables and meats. After being precooked, the food is brought together on the disposable phenolic-resin treated paper plate and frozen.

Typical menus include the following:

1. Steak, French fried potatoes, carrots.
2. Meat loaf, candied sweet potatoes, spinach.
3. Beef stew, hot bread, asparagus.
4. Corned beef hash patties, home fried potatoes, string beans.
5. Ham steak, candied sweet potatoes, turnips.

6. Breaded veal cutlet, home fried potatoes, peas.

For the final warming up of the frozen meals, the company recommends its Maxson "Whirlwind" oven, a light, stainless steel unit operated electrically, but also available for gasoline, gas, or other heat sources.

One model has a capacity of six meals, but a two-plate model will be produced to retail between \$10 and \$15, reveals Fred W. Lutz, vice president in charge of sales.

In the final heating process, each plate is placed on a specially arranged rack within the oven and a high speed motor-driven fan at the rear of the oven distributes the hot air evenly over the surfaces of all plates. Heating is thermostatically controlled.

The oven is designed to prevent drying of the foods during the heating process, the company claims. The final cooking period is not merely a "warming" process but an actual thorough, final cooking, it is said.

It is expected that these ovens might also find use in the home for thawing of other frozen foods. The units have a top temperature of 325° F.

Special ovens for aviation use have been developed by the firm. One such unit weighs about 35 pounds and measures approximately 20 in. deep, 14 in. wide, and 19 in. high.

## Frozen 'Plates' Quickly Heated in Oven



Special ovens like the above are employed to thaw and finish the cooking of the precooked frozen meals in the food processing system developed by W. L. Maxson. Equipped with a fan and thermostatically limited to a maximum temperature of 325° F., this oven prepares the plates of food for the table in 15 minutes, it is said. Special design keeps the food from drying during this final heating, the company claims.

Ovens for airplane installation are now being produced for the Naval Air Transport Service, the company has announced, following an experiment in which 180 meals were transported 13,000 miles aboard a Navy plane. Other war agencies may adopt this process, and domestic air

lines have the plan under study, the company says.

Experiments on this new food process were started by Mr. Maxson at his home, and for the past two years have been carried on in a laboratory established by the company in Elmhurst, Queens.

For: TRUCKS, LOCKERS, COOLERS, COUNTERS AND CABINET CONVERSIONS, ETC.

## KOLD-HOLD PLATES

KOLD-HOLD MFG. CO.  
LANSING, MICH., U.S.A.

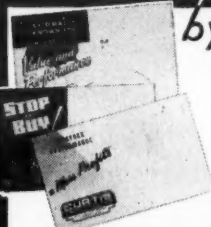
EASY-TO-USE BARGAINS  
ACCURATE! UP-TO-DATE  
COMPLETE! GOOD LINES!  
ETC. BUYING GUIDE  
BIG PRINT WHOLESALE  
EASY-TO-USE PRICES, ETC.  
QUANTITY DISCOUNTS  
ETC.

**A DREAM COME TRUE!**

Here it is—the kind of a refrigeration tools, parts, and equipment catalog you've always wanted. Put out by AIRO, of course. Write for yours today sure!

**AIRO SUPPLY CO. (NOT INC.)**  
WHOLESALE ONLY  
2732 N. Ashland Ave., Dept. B  
Chicago 14, Illinois

## REFRIGERATION by CURTIS



Write for complete information.

Bulletins C-14-M, C-58, C-68-C

CURTIS REFRIGERATING MACHINE DIVISION  
of Curtis Manufacturing Company  
1912 Kienlen Avenue • St. Louis 20, Mo.

## YES.....I'M HERE TO BUY MY Deepfreeze



GET READY FOR THE DAY WHEN THEY'LL **ALL** BE SAYING THIS!

### Remember...

1. DEEPFREEZE is performance-proved in thousands of homes since 1938. Not a postwar experiment.
2. ONLY DEEPFREEZE provides 100% Primary Freezing surface... protection against dehydration of foods.

3. FULL-PAGE national advertising by Deepfreeze is now pre-selling for you.

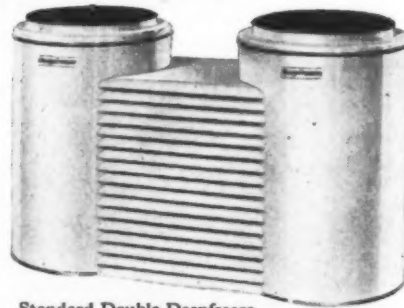
4. MILLIONS will demand the name Deepfreeze on the home freezer they buy.

FOR INFORMATION REGARDING DEALER FRANCHISE IN YOUR TERRITORY, WRITE TODAY!

**Deepfreeze**  
TRADE MARK REG. U. S. PAT. OFF.



ONLY MOTOR PRODUCTS CAN MAKE A "DEEPFREEZE"



Standard Double Deepfreeze

Cartridge cases, airplane nose and tail gun turrets, blood desiccating units and industrial freezing equipment are among the war products that Motor Products Corporation is proud to be making to speed the day of victory.

**MOTOR PRODUCTS CORPORATION**  
Deepfreeze Division: 2482 Davis Street, North Chicago, Ill.  
Main Plant: Detroit, Mich.; Canadian Plant: Walkerville, Ont.



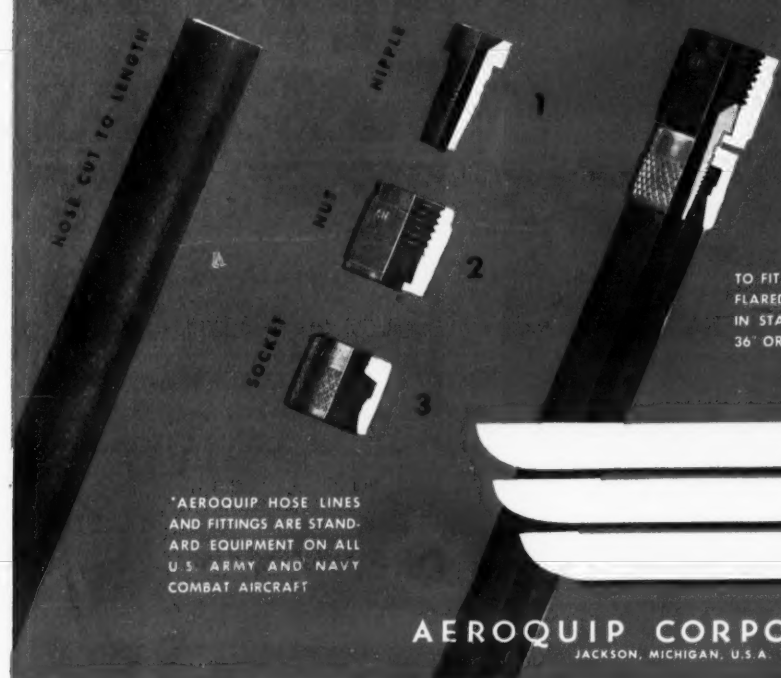
**NIBCO WROT Fittings for Refrigeration**

NIBCO WROT Fittings are formed in one step from straight copper tubing. They are strong, light in weight and dense in structure... impervious to gases. Because every fitting is perfectly formed and absolutely "round and square," they are easier to use in production. Laboratory Control and individual plug testing assure close tolerances. You can eliminate service troubles by using vibration-proof and corrosion-proof NIBCO WROT Fittings. Write for complete catalog.

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ELKHART, INDIANA  
VALVES AND FITTINGS SINCE 1904



## AEROQUIP ANNOUNCES: REFRIGERATION SERVICE CHARGING LINE



**3 PIECES** (EACH REPLACEABLE)  
ASSEMBLY WITHOUT SPECIAL TOOLS.  
FITTINGS CAN BE REMOVED FROM  
HOSE AND REUSED REPEATEDLY.

TO FIT STANDARD 1/4" S.A.E.  
FLARED TUBE CONNECTION  
IN STANDARD LENGTH 24",  
36" OR LONGER

AEROQUIP HOSE LINES  
AND FITTINGS ARE STAND-  
ARD EQUIPMENT ON ALL  
U.S. ARMY AND NAVY  
COMBAT AIRCRAFT

AEROQUIP CORPORATION  
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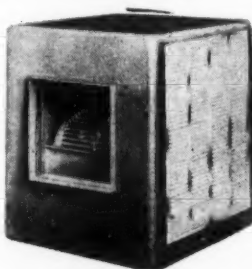
★ *Be Patriotic — Be a Blood Donor* ★



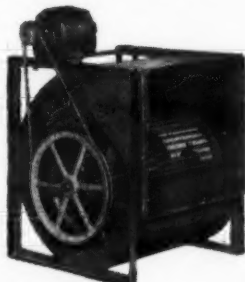
PROPELLER FANS



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AIR COOLERS



STANDARD BLOWERS

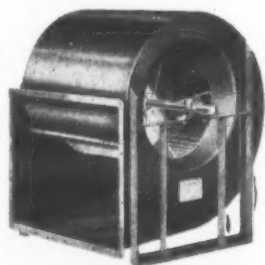


UNIT HEATERS

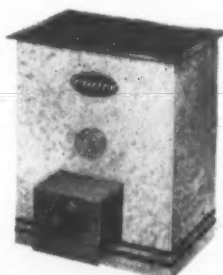


UTILITY

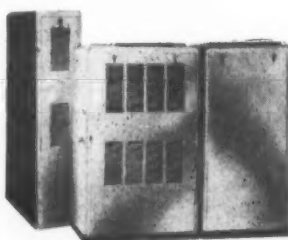
HEAVY DUTY  
BLOWERS



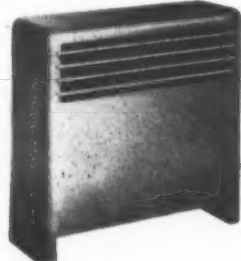
FLOOR FURNACES



FORCED AIR  
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Fan Type  
CIRCULATING HEATERS



With the complete UTILITY line of air cooling, ventilating and heating equipment, you will have profitable sales all through the year. Let us show you the advantages of handling all these appliances from one dependable source.

**UTILITY**  
*Appliance Corp.*

Formerly Utility Fan Corporation

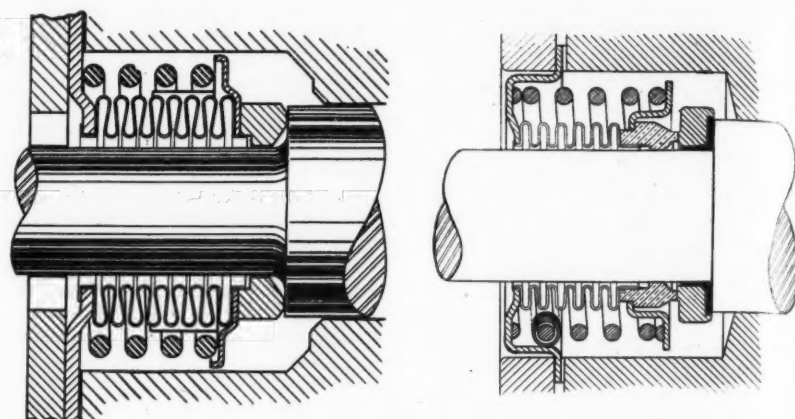
4851 S. ALAMEDA STREET • LOS ANGELES 11, CALIFORNIA



## Servicing Frigidaire Open-Type Systems

**Instalment No. 9**

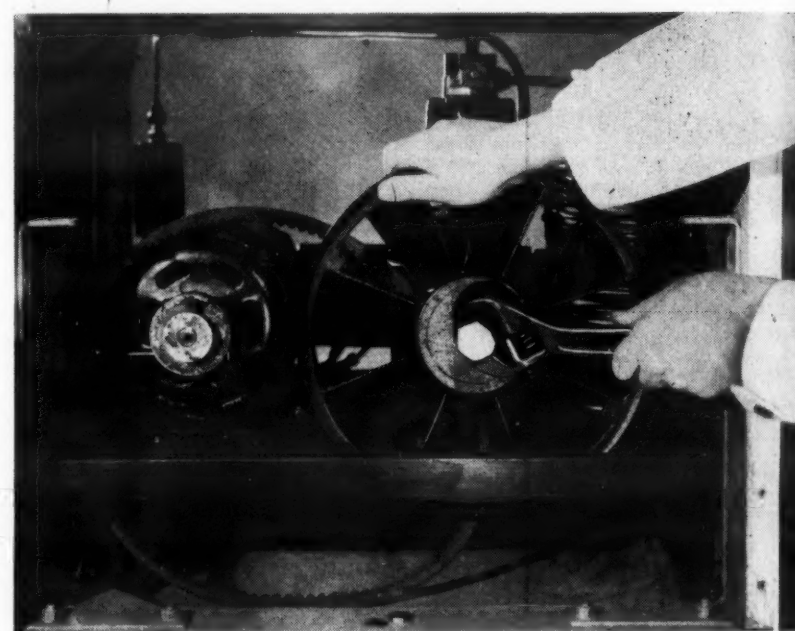
### 35—Types of Seals



The *early-type seal*, it will be noticed, bears directly on the crankshaft shoulder while the *latest-type seal* bears against a hardened ring which contacts and revolves with the shaft. The seal between this ring and the shaft shoulder is accomplished through the medium of a rubber-like composition washer which is molded into the ring itself.

When replacing either type seal, it is first necessary to install the gauges and close the suction valve. After operating the unit until 15-inch vacuum is reached, open the suction valve to increase pressure to 1/2 lb. Then close discharge valve on the condensing unit.

### 36—Removing the Flywheel



Now, remove flywheel, the belt, of course, is first taken off and the flywheel removed by unscrewing the nut and lifting off the lock washer. Then install the wheel puller, as shown.

The wheel puller illustrated, may be used on various type condensing units. It is merely a cap which when screwed on to the flywheel, exerts a pressure against the end of the crankshaft and forces off the wheel. Other types of wheel pullers are required for removing flywheel on other types of condensing units. After this has been done, remove retainer plate.

## Henry

ABSO-DRY—PRESSURE SEALED DRYER

Most efficient due to the exclusive Henry vacuum drying and pressure sealing process. Escape of dehydrated air when seal cap is removed proves unit is absolutely dry! Soldered brass shell with dispersion tube and dehydrant compression spring. Choice of Silica Gel or Activated Alumina.

Write for Catalog

**ASK YOUR JOBBER ABOUT IT**

Henry Valve Company  
1801 18th St., Spaulding Ave., Chicago

**HEAR 'EM  
HISS-S-S!**

## STANGARD

### PRIME SURFACE Cold Plates

FOR MAXIMUM EFFICIENT REFRIGERATION

★ For Locker Plants, Sharp Freezing, Ice Cream Cabinets, Hardening Rooms, Soda Fountains, Storage Rooms, Milk Coolers, Liquid Cooling, Food Counters and other similar uses.

Write us today for complete information and catalog.

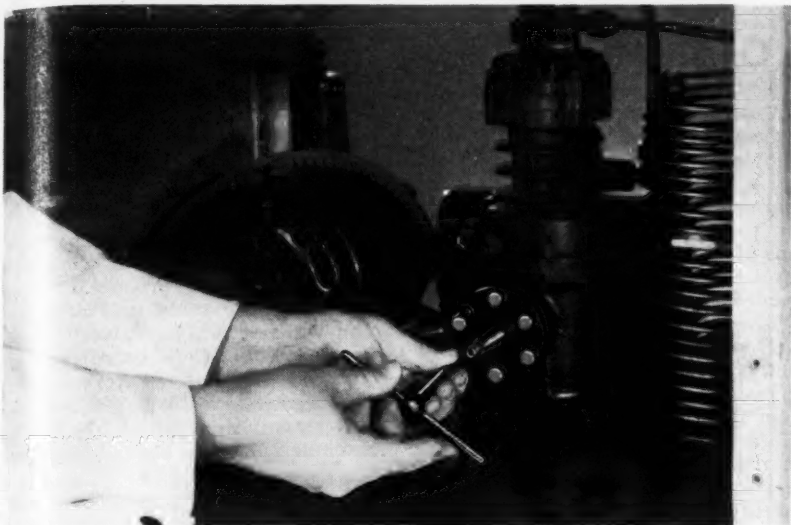
Stangard Facilities are contributing to the production of materials for our National Defense.

**THE STANGARD-DICKERSON CORP.**  
46-76 Oliver Street, Newark, N. J.



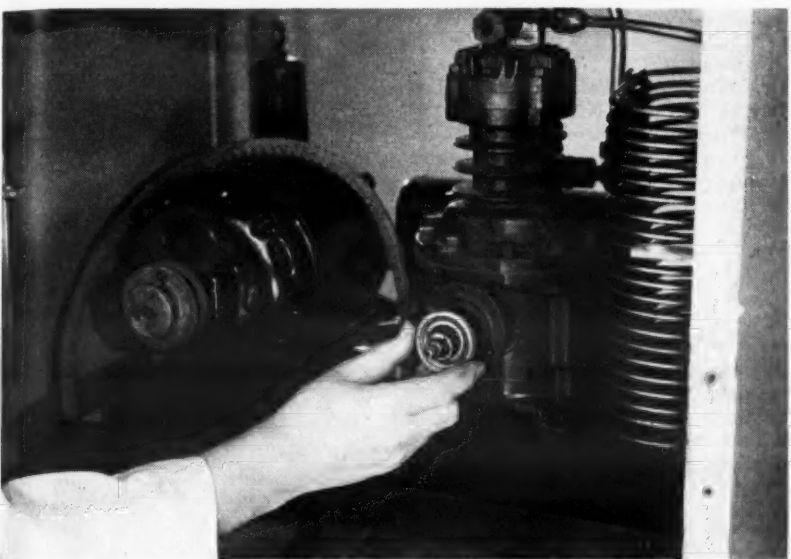
## Servicing Frigidaire Systems

### 37—Removing Retainer Plate




Remove retainer plate by taking out the cap screws as shown. Due to the spring tension of the seal, there will be a slight pressure against the last two bolts. This can be overcome, however, merely by taking out the bolts alternately from side to side of the retainer plate. When the plate is off, the next step is to remove crankcase seal.

### 38—Removing Crankcase Seal



Remove crankcase seal. This is easily accomplished by first taking out flywheel key from keyway in crankshaft and slipping out the seal. Of course, if service man is working on a unit that has the never style seal with the nitralloy ring, the ring should also be removed.




**FOR PROFIT**

**TYLER'S TOPS**

YOU can go places with Tyler in the years ahead. The growing Tyler line meets today's—and tomorrow's—demand for self-service, frozen foods display, better design, better construction, better value! Write for complete-line catalog today! Tyler Fixture Corp., Niles, Michigan.

**TYLER**

TYLER FROZEN FOODS DISPLAY CASE—open, self-service, wall-type.



**Credit Control**

Manufacturers know that sound credit control is critical in local distribution of their products—a function efficiently performed by NRSJA member firms. Knowing the local picture intimately, absorbing the local risks, the NRSJA jobber is in an ideal position to perform for the manufacturer this irreplaceable service.

**NATIONAL REFRIGERATION SUPPLY JOBBERS ASSOCIATION**

*Dependable Distribution*

Paramount Building - - Cincinnati, Ohio

*Moisture can be a bad actor...*

GOOD commercial refrigerants never attack refrigeration or air-conditioning apparatus by themselves. But some of them team up with moisture to produce corrosive products that can cause serious trouble. That's why it's so vitally important to use tube with a bone-dry interior...why Revere Dryseal Copper Tube has all moisture removed and sealed out!

Available now, this tube for refrigeration, air conditioning, heat control, bottled gas and many other purposes, is sold by Revere distributors everywhere. It comes in coils of 25, 50 and 100 feet, and each length is individually treated to remove all interior moisture, then sealed at both ends.

This is but one of the "kid glove" treatments given Revere Dryseal Copper Tube so that it will help protect your installation against trouble. It is made of deoxidized copper and is carefully kept free of oxides through every manufacturing step. In annealing this tube to dead softness, for example, the heating is done in a controlled atmosphere.

It comes in sizes from 1/4" to 3/4" O.D. with .035" wall. Also available for refrigeration, air conditioning and a variety of other services is Revere Sealed End Copper Tube. Each end is plugged and taped against injury and contamination.

For Revere Dryseal or Sealed End Copper Tube, call your Revere distributor. The Revere Technical Advisory Service is always ready to help with your problems.

**REVERE**

COPPER AND BRASS INCORPORATED

Founded by Paul Revere in 1801

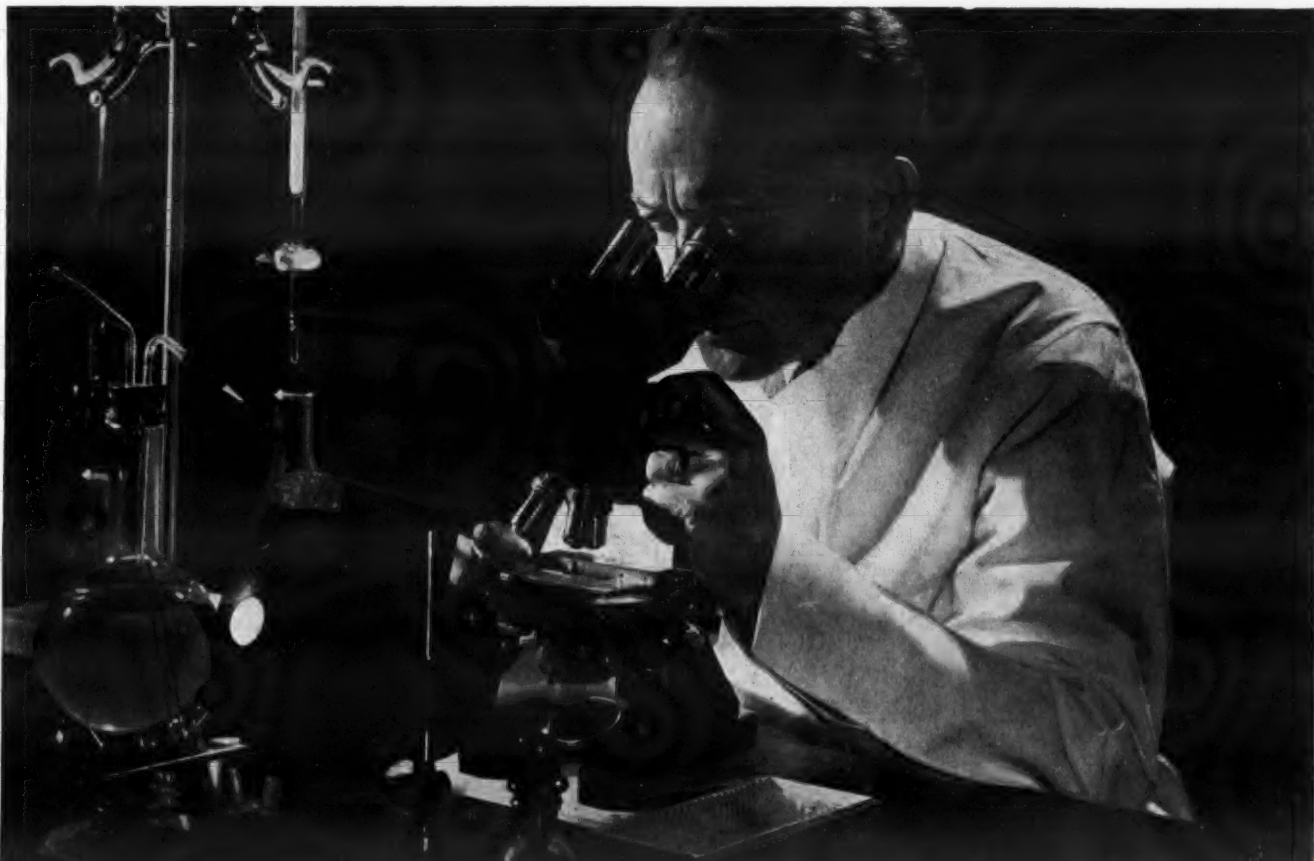
Executive Offices: 230 Park Avenue, N. Y. 17, N. Y.



Before a coil of Revere Dryseal Copper Tube moves into the annealing furnace, its interior is "purged" of oxygen.

Be Patriotic

Be a Blood Donor



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*Firsts*

Solving Problems for Industry

ERMETO FITTINGS

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FIRE-RESISTANT HOSE ASSEMBLIES

THE WEATHERHEAD T-RING PACKING

## HOW TO SAVE YOU A PENNY

HAVE you thought much about performance of small parts in new peacetime products—and how much these parts cost?

Countless times since 1919 Weatherhead has been assigned the job of saving "a penny a part" for a manufacturer—and has solved the puzzle and delivered a finer part in the bargain. At Weatherhead this kind of thinking begins at the beginning—in the laboratory—where a steadily growing staff is trained to consider engineering, production

and marketing factors all as interlocking parts of each job at hand.

One of many examples:—When hydraulic brakes were adopted for the automobile, Weatherhead developed a hydraulic brake line only one-half the size of those previously used, and produced it for less cost to the automotive industry.

That's why we can say, "Look ahead with Weatherhead." We invite you to write our Sales Engineering Department for assistance in solving your postwar parts problems now.

Look Ahead with



FREE: Write on company letterhead for "Seeds of Industry"—24-page illustrated story of Weatherhead facilities and products ready to serve you.

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Plants: Cleveland, Columbia City, Ind., Los Angeles  
Canada—St. Thomas, Ontario





The Fight  
against  
MOISTURE

## HE'S RUNNING AWAY FROM A WET SITUATION, but . . .

. . . the grim urgency of the matter will bring him back to finish the job.

Unlike the retreating youth, the wise refrigeration service engineer on a moisture case would simply reach for the TZ and, in nine out of ten cases, the trouble would be over in short order. He wouldn't have to come back. He'd be on his way to the next call.

Time-saving, gasoline-economizing, profit-paying TZ is waiting for the progressive engineer at the store of the live jobber. Stock it today.

"The Moving Dehydrant"

**THAWZONE**

Fully Protected by U. S. Patents  
The PIONEER FLUID DEHYDRANT

**HIGHSIDE  
CHEMICALS CO.**

195 Verona Ave.  
NEWARK 4, N. J.

## Problems In the Installation and Care of Replacement Seals

### Tips From a Factory Engineer on Correct Methods

MONTREAL, Canada—Problems in replacement seals for refrigeration machines, both from the standpoint of the manufacturer and the service engineer, were outlined by Edward Wahl, Rotary Seal Co., in his talk before the R.S.E.S. Conference here.

When one considers Rotary seals in connection with refrigeration, said Mr. Wahl, it is natural to classify the product as a replacement part, even though six leading compressor manufacturers are using the seal as original equipment.

"The seals we produce for refrigeration service can be described as one branch of our business. Our main production is for the industrial applications where the seals are used as original equipment."

Although the general design and method of applying a seal are very similar in the majority of cases, gathering of the basic information is one of the most difficult problems. With the exception of a few instances, said Mr. Wahl, the required information, such as dimensions and model numbers, has not been obtainable from the compressor manufacturers. It is not their policy to give out such information so we have had to get it the hard way through the help of the service men and jobbers, and our own research.

#### HOW DATA IS OBTAINED

Briefly, said the speaker, this is how an inquiry for a seal is handled:

"A request comes in for a seal to fit a certain model of a certain make compressor. We find that we do not have a seal for the job. Along with our reply to that effect, a specification form illustrating different designs of seal chambers and indicating the dimensions we must know, is included."

"When the desired information is received we can then determine whether a seal can be made, and if so, make up a sample for the customer for installation in his machine. Before adding this seal to our stock list many similar requests must be received and seals installed to be sure that the unit is satisfactory for general distribution to the trade. In many cases this takes over one year so you can see that it is a slow process adding a seal to our line."

Those compressors using a bellows seal on the inside, which is considered the conventional design, do not present much of a problem when working out a replacement seal, said Mr. Wahl. It is those machines using the outside bellows, metal diaphragms, shafts with special designs, and sleeves over the shaft which are the difficult ones for which to design replacement seals.

Mr. Wahl discussed some of the problems encountered in servicing those types of compressors which do not incorporate the conventional bellows arrangement, such as Super-Cold, Chatalaine, Ilg, and Mayflower, and also commented on Chieftain, Norge, and the Universal Cooler units having outside bellows.

"The original purpose of the rotary seal is to give the service trade a complete new seal which can be installed right on the job if necessary," Mr. Wahl explained.

"By a complete seal, I mean, that two new wearing surfaces would be furnished—the rotating and the stationary."

#### WHAT SERVICE MAN MUST DO

"The replacement bellows seal by itself is but half a seal because it furnishes only the stationary wearing seat and until the shoulder seal used in connection with the bellows came into use you would obtain only half a seal when buying a new bellows. It was up to the service engineer to recondition the rotating surface on the shaft shoulder."

"Another requirement of a replacement seal is that it gives the same 100% perfect performance on a machine which is several years old as the original factory seal was expected to do when the machine was new and in perfect running condition. To accomplish this objective we recommend an installation procedure of preparing a definite seal space length, given on our instruction sheet, so that the spring will exert the pressure required to maintain a leak-proof seal joint."

"Our experience has shown that there are variations in the lengths of the seal space. These variations are due to many different reasons but nevertheless they exist. It is impossible for us or anyone to build seals for all the possible lengths."

"Because  $\frac{1}{16}$  inch, more or less, compression of the spring results in a change in the spring pressure above or below the recommended amount, we have specified the length for which our seals are made. The length given on the instruction sheet

usually is the shortest length we have found to exist.

"When the space is longer than is specified it is a simple matter to adjust it according to the instructions and you are sure that the seal will be operating at the correct spring tension."

#### PROBLEMS ON CERTAIN UNITS

"Replacing the seal on the Super-Cold compressors presents a problem. Rotary seals have been used on these machines as original equipment for over 10 years. We furnish the rotating seal assembly to the Super-Cold Co. and they produce their own plates for the seals to run against. You will not find a replacement seal for the Super-Cold compressors on our stock list, but we are considering arrangements to furnish the rotating seal assembly for the three sizes of machines to the Canadian service trade."

"At this time replacement plates will not be available and you will have the problem of resurfacing the bronze seats in the original plates. One compressor size having a  $\frac{5}{8}$  inch shaft is a typical Rotary seal installation, but there are two sizes—the  $\frac{3}{4}$  inch and  $\frac{7}{8}$  inch shafts, which use a different seal design."

"In those two, a double end seal has been used. That is, there is a sealing ring at each end of the spring. Consequently, there are two seal plates to be resurfaced. The inside plate is flat and can be easily repaired but the outer plate is bell shaped and the bronze bushing is at the bottom. The problem of taking a machine cut and lapping of the bronze seat in this plate is a difficult one and will require machine shop facilities."

"The Chatalaine situation is very similar to that of the Super-Cold seal. It is also a double seal arrangement but the original Rotary seal used is of a slightly different design than used in the Super-Cold machines or in our present replacement seals. You have the same problems in reconditioning the stationary seal surface on these plates, and the best method of reconditioning will have to be worked out by experimentation."

"The Ilg compressor using an original seal of the diaphragm type presents a rather difficult service problem because of two reasons: first, the short seal space seems to vary considerably and, second, a small oil hole has been drilled in the bell shaped cover plate."

"One of the first things we had to consider in making a seal for this compressor was how to plug the hole. The stationary bronze bushing we furnish was designed with a neoprene gasket which would cover the hole, but by making the bronze bushing and its gasket long enough to do this the remaining space for the rotating seal assembly was so short that the seal was compressed solid in some installations and in those cases would burn up."

"Later on we were advised that the oil hole in the cover plate existed only on certain models and that for some reason it was a condition which would not be encountered in the Ilg compressors being used in Canada. As a result we could shorten the bronze bushing and its gasket to provide a longer space for the rotating seal, thereby eliminating the burning up condition. As far as we know, this one change has now made the seal satisfactory for the Ilg installations."

"Replacement of the diaphragm seal in Mayflower compressors and also Frigidaires and Crosleys requires extra precautions. Because the spring is at the back end of the shaft on these machines, spacing of the seal so that the shaft will not be mis-

(Concluded on next page, Col. 1)

Designers may disagree about  
"FUNCTIONAL DESIGN"



... but they all know that any **REFRIGERATOR**  
**MUST HAVE GOOD INSULATION**

The need for various degrees and kinds of cold, to keep different foods at their best, may bring about some radical changes in the functional design of refrigerators—but none, let us hope, as radical as those illustrated above.

Irrespective of such new developments, tomorrow's refrigerators will need good insulation—insulation that will stand up and retain its insulation efficiency over a long period of time. In short, such insulation as Fiberglas\*.

Feing inorganic—made of fine fibers of glass—Fiberglas is a perma-

nent and efficient insulation material, immune to rot and decay. It is highly moisture-resistant—picking up less than 1% by weight under extreme humidity conditions—and dries out without harm. It is not corrosive to aluminum and steel in the presence of moisture. Best of all, it won't settle or disintegrate, but stays put for life even when subjected to severe vibration.

The remarkable service rendered by Fiberglas Insulation in millions of ranges, refrigerators and other home appliances has made it a favorite with

buyers, as well as with merchants and manufacturers. Its flexibility and easy handling qualities have also appealed strongly to appliance manufacturers, as has its light weight—a source of substantial freight savings for many companies.

Yes, there are many reasons why Fiberglas Insulation deserves a place in your Postwar Plans. For full information, write Owens-Corning Fiberglas Corporation, 1848 Nicholas Building, Toledo 1, Ohio. In Canada, Fiberglas Canada Ltd., Oshawa, Ont.



**FIBERGLAS**

\*T. M. Re. U. S. Pat. Off.

**THERMAL  
INSULATION**

**EASY TO CARRY EASY TO USE**

**POSITIVE • QUICK • CLEAN  
LEAK DETECTION**

**CONSERVE  
IRREPLACEABLE  
REFRIGERANT GASES**

Ask Blotorch Bill




Halide Leak Detector (may also be used as HI-Heat Alcohol Blotorch)

THE **Lenk** MANUFACTURING CO.  
NEWTON LOWER FALLS 62, MASS.  
Manufacturers of Soldering Equipment Since 1919  
ADDRESS: POST OFFICE BOX 8-A



## Replacement Seal Problems Will Vary According to Make of Compressor

(Concluded from preceding page)  
aligned, thereby hitting or binding on the inside of the compressor body, becomes a trial and error method.  
"It is impossible to give a definite length for the seal space for these machines as it is in the conventional bellows applications. After the seal has been installed it should still be possible to push the shaft back between  $\frac{1}{32}$  inch and  $\frac{1}{16}$  inch. This amount of play should give proper clearance at all points.

### CHECKING THE SHAFT

"To find out whether the shaft is free it is, of course, necessary to bolt on the plate. Then, if the shaft can be pushed in more than  $\frac{1}{16}$  inch the seal must be removed and spacer washers placed against the shaft shoulder to take up the excessive amount of movement. That is why installing seals on these machines is partially a trial and error method in obtaining the proper spacing.

"Several models of Norge compressors use a shaft having a slot cut back to the shaft shoulder and on Chieftain compressors beginning with 1937 models the shaft has an undercut. Both designs are such that the Rotary seal cannot be installed directly on the shaft.

"On these installations a sleeve is furnished with the seal. The sleeve is placed on the shaft back against the shaft shoulder and in this way the proper smooth surface is provided for the rotating seal assembly. After the sleeve is once in position the installation procedure for the Norge and Chieftain seals is the same as for other conventional assemblies.

"For those Universal Cooler compressors having an outside bellows seal which runs against a removable seal plate, we make up two replacement seals. It is important to remember that the models which our seals will fit are those machines having the removable plate, because our seal must be bolted on to the compressor. They cannot be used on the models having the bellows running directly against the compressor body.

"The performance of a seal, besides being dependent on the quality of workmanship and materials, and condition of the compressor, also depends on how well it is installed.  
"You might wonder what can be

done wrong in making a seal installation. There are two examples which I would like to give. They may be hard to believe, but they are facts.

"The Chicago distributor of one of the largest refrigerator manufacturers called us one day explaining that the seal we advertised for a certain model of their machines did not fit. They had installed two of them and both burned out in a very short time.

"Our instruction sheet stated that a  $1\frac{1}{4}$  inch long space was required for the seal assembly, and only after two seals had gone bad did they measure the space and find that it was only  $\frac{7}{8}$  inch.

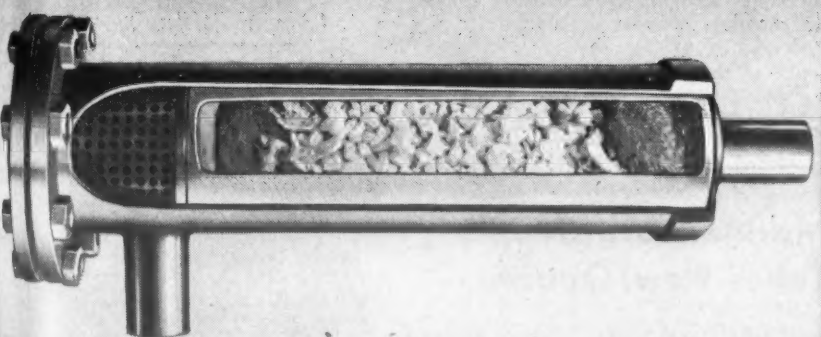
### ERRORS TO BE AVOIDED

"Upon checking up we found that the shoulder seal used with the bellows was still on the shaft. Upon removing it the length still was short and we found a second shoulder seal on the shaft. Some one had serviced the machine previously and when using a replacement bellows did not remove the original shoulder seal but instead placed a second one on the shaft. The service shop had done a bad job but the first thought they had was to blame the seal.

"A few months ago a letter was received from a service man explaining that he was returning a seal which held perfectly for three weeks and then began to leak. When it came in we found that he had installed the seal assembly in reverse. He had put the seal surface of the rotating part against the shaft shoulder the same as if a bellows was being used, and the spring holder against the seal seat in the plate. There actually was no seal at all. How he could claim that it worked for three weeks never was found out."

In conclusion, Mr. Wahl said that it is very important to handle a seal as a delicate piece of equipment. The seal surfaces are finished to a degree of flatness measured not in thousandths of an inch, but in light bands which are the basis for measuring in millionths of an inch. Careless handling of a seal can damage these highly finished sealing surfaces. Handling a seal properly is part of a successful servicing job, said Mr. Wahl.

## SIMPLIFY RIGID LINE DRIER SERVICING

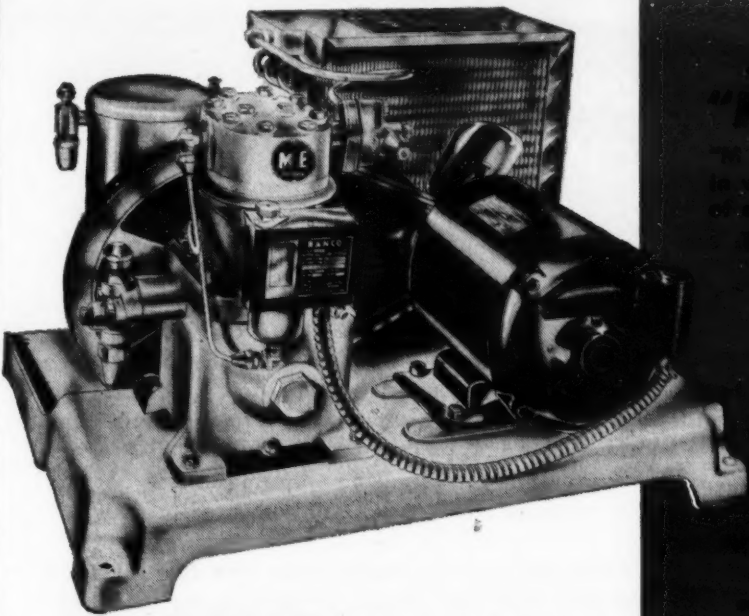


## DFN ANGLE TYPE DEHYDRATORS make it as easy as flexible lines!

No need to struggle with soldered connections and unyielding pipes, when you service DFN angle type dehydrators on rigid lines. Just unbolt one flange, take out old cartridge, slip new one into shell, and re-bolt flange. Fast, simple—and you get the FULL protection against moisture, sediment, and acid provided only by the DFN System.  
DFN Cartridges are mechanically

packed with the correct quantity and density of reactivated drying agent for dehydrating and neutralizing. An exclusive DFN anti-sediment assembly covers the complete area of outlet and inlet with multiple layers of wire mesh, bronze wool and felt. It holds more sediment without pressure drop—filters to minute size. Ask your distributor about this triple-action unit—or write us for complete details.

McINTIRE CONNECTOR COMPANY, NEWARK 5, N. J.



### M&E HEAVY DUTY 1/3 and 1/2 H.P. CONDENSING UNIT

Introducing many new and important "M & E" features including a new reed type valve plate, a simplified crankshaft and interchangeability of parts with other "M & E" Compressors of different ratings.

Advance inquiries are invited from manufacturers and Distributors

"M & E" COMPRESSOR Division of  
**LEHIGH FOUNDRIES, Inc.**

Main Offices — Easton, Pa.  
Plant — LANCASTER, PA.



Here is low finned tube—all one piece—that gives you more BTU's per dollar than plain tube. Being extruded from the original tube, the fin structure is not affected by vibration or sudden heat changes.

TRUFIN with low fins has been found most practical and highly efficient in applications in shell and tube condensers and in liquid-to-liquid heat exchangers.

Ends of the tubes are free from fins and, being the same diameter on the O.D. as the overall fin-height, the ends are similar to those of plain tubes and can be rolled or brazed into tube sheets.

Because TRUFIN is integral, you can depend on its giving you long efficient performance under almost all conditions.

Available in the following alloys: copper, aluminum, aluminum brass, cupro-nickel, brass, stainless steel, Admiralty, nickel.

Write to Detroit for additional data on TRUFIN.

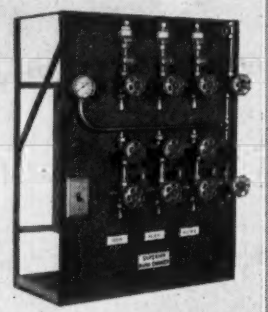


CALUMET & HECLA  CONSOLIDATED COPPER COMPANY

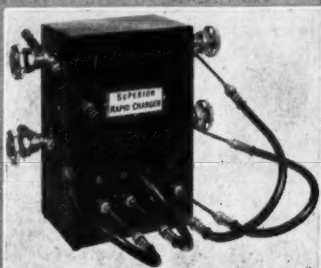
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BUY MORE BONDS





TYPE 630—illustrated above, is a complete refrigerant transfer system, with all equipment mounted on a special composition panel.



TYPE 631—illustrated above, is recommended for use where evacuation and discharge, and other facilities provided on Type 630 are not required.

## Superior RAPID-CHARGERS

Hi-speed refrigerant transfer systems  
... five pounds per minute by actual test.

**RAPID-CHARGER** is the result of careful study of all known refrigerant transfer methods, systems and problems pertaining thereto. It has instantaneous liquid coolers—one for each refrigerant to be transferred—connected in series with a refrigerating circuit, using a thermostatic expansion valve, and a small condensing unit with pressure control.

**RAPID-CHARGER** is fast—no valuable time lost in filling cylinders—no purging necessary. Refrigerant losses are practically eliminated.

If you haven't a copy of Catalog R2, request one today.

**SUPERIOR VALVE & FITTINGS COMPANY**

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OFFICES IN PRINCIPAL CITIES • STOCKS: CHICAGO (16) • LOS ANGELES (15) • JOBBERS EVERYWHERE

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**BACK THE 7th WAR LOAN . . . BUY MORE WAR BONDS**  
★

**. . . and Then Myrtle Opened Her Purse**



1 Though the street outside is stifling,  
Inside Heatter's store it's worse.  
Myrtle, in no mood for trifling,  
Hastens out with tight-closed purse.



2 In McCool's the fagged-out lady  
Trades her frown in for a smile.  
Air that hints of palm trees shady  
Bids her stop and shop a while.



3 End that long "war of attrition"—  
Don't send folks out with a grouse!  
Keep your air in peak condition—  
Modernize — with Westinghouse!

Air Conditioning is certain to be well at the top of the list of essentials for postwar modernization and new building. Executives everywhere—your customers—are hearing a good deal about correct air conditioning through advertisements like this.

They're learning to depend upon Westinghouse and its years of pioneering research and engineering experience—for correct air conditioning... the scientifically-engineered blending of correct temperature, humidity, circulation and air cleanliness.

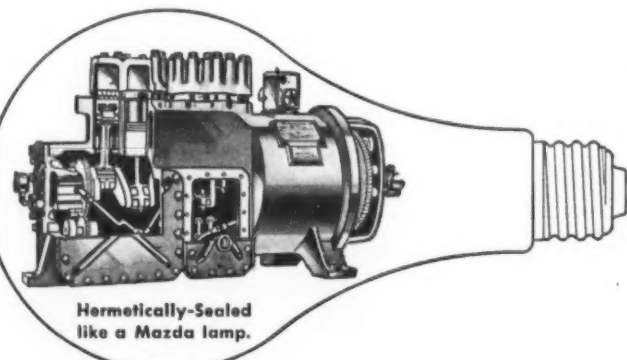
Westinghouse Authorized Contractors will be helping them get it. Will you? For information on available franchises, phone your nearest Westinghouse office, or write Westinghouse, 150 Pacific Avenue, Jersey City 4, N. J.

### THE SERVICE-PROVED HERMETICALLY-SEALED COMPRESSOR

These Westinghouse economy-satisfaction advantages have been proved by years of service in thousands of installations:—

**No Shaft Seals.** During wartime refrigerant shortages, few Westinghouse systems were ever "down." Why? Because seal leaks are the cause of a large percentage of all system failures.

**Few Parts to Wear . . . Direct-Drive Efficiency**  
**. . . Space-Saving Refrigerant-Cooled Motor.**



Hermetically-Sealed  
like a Mazda lamp.

**Westinghouse** **CORRECT** **Air Conditioning**  
PLANTS IN 25 CITIES . . . OFFICES EVERYWHERE

Westinghouse Presents John Charles Thomas • Sunday, 2:30 E.W.T., N.B.C.

### Temprite Executives



LUD EMDE

New vice president and general manager of Temprite Products Corp.



P. FRED LESLEY

Secretary and treasurer of Temprite, who takes further responsibilities as assistant general manager.

### Admiral's Earnings Gain For Quarter

CHICAGO—Admiral Corp. earnings for the first quarter of 1945 were \$269,000, as compared with \$205,000 for the first quarter of 1944.

These earnings include provision for all necessary charges and an estimate for possible refund in respect to renegotiation of war contracts. This is equivalent to 32 cents per share as compared with 24 cents for the first quarter of 1944.

Lynn C. Park, treasurer, also reported that sales for the first quarter were \$11,400,000 as compared with \$8,700,000 for the same quarter of the last year, or an increase of over 30%.

### Macklanburg Supply Takes New Quarters

OKLAHOMA CITY, Okla.—Macklanburg Supply Co., Inc. announces the opening of a new salesroom and warehouse at 129-133 N.W. 23rd St., here.

"This move reflects the continual growth of our company over the past 13 years," W. M. Carroll, manager, states. "Our new quarters will more than double those of our former location."

In addition to a line of products to fill refrigeration service men's needs, other items of merchandise will be sold by this firm in the post-war period, it was stated.

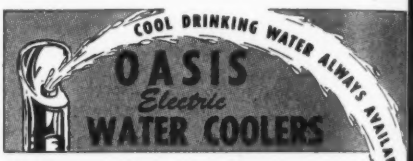
### Reference Guide on Repair Priorities Is Made Available

WASHINGTON, D. C.—A brief but comprehensive reference guide of WPB regulations affecting all repair shops and contractors engaged in maintenance and repair work has just been published by the Council of Electric Operating Companies, with headquarters here.

The material for the pamphlet, designated as WPB Service Guide for Repair Shops was prepared under the direction of Gerald W. Weston, Service Trades Division, Office of Civilian Requirements, WPB, who has been collecting the information for the past several months.

According to the sponsors of the publication, it is not intended in any manner to replace any WPB orders or regulations but is intended rather as a guide to such regulations which are to be consulted as each problem arises.

The information is divided into sections covering the following subjects: controlled materials, refrigeration and air conditioning, motors, solder, radio repair parts, repair parts and materials in general, use of customers' ratings for maintenance and repair work, construction, tools and special equipment, list of principal WPB orders controlling electrical repair and maintenance equipment, a summary of the ways of obtaining materials and a list of definitions of terms and phraseology used in WPB orders.



OASIS means the best in clean, correctly cooled drinking water . . . 24 hours a day year in year out! Made by EBCO . . . pioneers in electric water coolers.

**EBCO Mfg. Co.**  
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Columbus, 8, Ohio



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103 Park Avenue, New York 17, N. Y.



Refrigeration today is performing a vital service by guarding and preserving for future use, priceless food which might otherwise be wasted. Write for literature.

GENERAL REFRIGERATION DIVISION

Yates-American Machine Co.  
Beloit, Wis.



**Electromatic**

**AUTOMATIC CONTROL  
VALVES AND REGULATORS**

2100 INDIANA AVENUE • CHICAGO 16, ILL.



## Lehigh Industries--

(Concluded from Page 1, Column 2)  
market a complete new line of commercial refrigeration condensing units from 1/2 to 5 hp., inclusive. It will also make repair parts for M & E machines now in the field.

Jack Miller will be sales manager of Lehigh Foundries' M & E Refrigeration Division. Prior to the war he was district manager for White-Rodgers Electric Co., and from 1942 to early 1944 was with the War Department, at which time he became associated with Lehigh.

The refrigeration engineering and Lancaster factory staff of Merchant & Evans will become part of the Lehigh organization. Thomas Evans, who served many years as Chairman of the Refrigeration Division of Nema, will act as a refrigeration consultant to Mr. Sherman. M. P. Stoney, engineering vice president, will serve as a refrigeration advisor to the Lehigh organization.

Executive and sales offices of the M & E Refrigeration Division will be located in Easton.

Lehigh Foundries, Inc., was established in 1927. It operates a plant in Lancaster, Pa., adjoining Merchant & Evans, a manufacturing plant on 6th St., Easton, an air and an electric foundry along the Lehigh river, in addition to a new electric foundry being constructed in Easton. This new factory will cover approximately 70,000 square feet in area, and will be capable of producing approximately 1,500 tons of malleable and steel castings per month.

The company prior to the war were large producers of automotive and railroad castings. During the war, this business was continued and expanded, and in addition, the firm has played a major role in the development and manufacture of a core of ammunition items, and other products for the ordnance department. It has been the country's largest producer of 60 mm. mortar shells and 155 mm. illuminating shells.

Mr. Shumann, president of the company, has acted as chairman of Industry Integration Committees for the War Department. He is a director of the Malleable Founders' Society and has received a personal citation from the War Department for accomplishment in the war effort. The company is one of young men, Mr. Shumann being in his early 40's, and Mr. Miller being under 40 years.

## Canadian Refrigeration Journal

The only publication servicing the industry in Canada

National Business Publications Limited  
Gardenvale, Que. - Canada

## The Newest and Finest ELECTRIC WaterCoolers



THE REVELATION CO.  
L. E. RABJOHN  
301 San Fernando Rd. Los Angeles 41, Calif.

## IMPERIAL Flaring Tools

built to conserve precious minutes designed to do a job that's right the first time

Imperial Flaring Tools are especially valuable under current conditions. They help speed up tubing connection work and they make joints that are tight and stay tight.

IMPERIAL BRASS MFG. CO., 365 S. Racine Ave., Chicago 7, Ill.

## Mich. Locker---

(Concluded from Page 1, Column 4)  
operators and patrons in each transaction.

(Flying to the conference from Washington to report on progress of this form's adoption, National Frozen Food Locker Association's President Louis R. Uhrig told conferees that opposition to use of the form as now written appeared to be growing in Washington because of its duplication of the recent OPA Order No. 1 governing slaughtering permits. A possible alternative to its adoption, he reported, would be a form which the OPA would mail directly to locker patrons on the basis of lists of locker renters submitted by plant operators.)

Already concerned over the future of the locker industry because of labor shortages, rising costs, and the certainty of increased competition from individual freezers and expanded commercial frozen food sales, the unfavorable OPA publicity and impending enactment of the new meat control requirements led many operators to express concern over the industry's ability to continue operations in the face of its growing problems.

Decisions instructing Association officers to retain counsel and assess each of the Association's 100-plus members \$25 to finance the move followed a stormy session in which plant operators from various parts of the state outlined their experiences with OPA investigators and compared apparently conflicting and contradictory rulings issued by OPA and WFA local and district offices in Michigan and other states.

Several instances of allegedly unqualified autocratic rulings by OPA personnel were cited by operators, ranging from arbitrary establishment of ceiling prices on locker rentals to outlawing of all processing charges on foods brought to locker plants by patrons, and refusal to permit sales of meat in quarters for lack of established ceiling prices on such lots.

Many operators, visibly bewildered by conflicting and involved rulings, expressed a note of defiance, and predicted that further regulations affecting locker patrons as well as operators would ultimately drive meat out of lockers and into basement pantries as canned foods.

Repeated charges that current publicity is giving a highly distorted picture of the quantity and source of meat held in the average locker were voiced by operators. They asserted that OPA "spot checks" now under way in many plants throughout the nation serve to concentrate attention on those lockers holding relatively large stocks of meat, but make slight mention either of lockers containing little or no meat, or of the high percentage of units in each plant held by farm families.

Reviewing the progress of the NFFLA during the past year, President Stuart Smith, of Pontiac, and J. M. Card, Secretary of the Association, outlined to the 100 operators in attendance, the culmination of plans for group insurance of locker foods, and group purchases of frozen foods by the Association.

The advisability of a coordinated and consistent direct mail campaign by members to present and prospective locker patrons during the coming year was stressed by Mr. Smith.

Formal program of the conference, sixth annual educational program of its kind sponsored by Michigan State College, included papers on the merchandising of frozen foods, by Miss Elaine Bitter, Freezer Foods, Inc., Chicago; on development of greater service for patrons, by Professor G. A. Brown, of the College faculty; and papers on freezing temperatures of food and on the blanching process, by Dr. Margaret Ohlson, and William F. Robertson, also of the college staff.

## Reconversion--

(Concluded from Page 1, Column 5)  
As military cutbacks occur, some areas are being redesignated by lower (less critical) classifications. Detroit recently was dropped into the Class II category.

Lifting of the spot authorization ban permits such authorization without the unanimous consent of the Production Urgency Committee, said Mr. Krug. In addition, he pointed out, the Controlled Materials Plan will be "open-ended" when conditions permit, with the result that the spot procedure will become less important as a mechanism for authorizing civilian goods output.

Direction 5 to Order L-41, recently issued, is designed to permit construction work needed to reconvert for civilian production. Under this new ruling, WPB is prepared to approve WPB-617 applications for the construction of, and assign preference ratings to, any project that will not interfere with the war effort and satisfies such criteria as "the product that will be manufactured must generally be one that is needed for the civilian economy."

Assignment of AA-3 priority ratings, which are just below military priorities, for the procurement of machine tools and other capital

equipment for civilian production, was recently made possible by issuance of Direction 2 to Priorities Regulation No. 24. These applications will be approved on the same basis as those granted under Direction 5 to L-41.

All such applications for reconversion preparation must be filed in WPB field offices, and manufacturers who can qualify are urged to file immediately, WPB says. The applications for construction must be plainly marked "Reconversion Preparation."

Indicative of the progress WPB is making towards lifting restrictions is the number of orders and schedules that have been revoked in the past two weeks. Between April 26 and 30, WPB said, 45 orders and schedules were dropped. Most of these, of course, were not extremely important orders.

## Pippert Is Bendix Regional Manager

DETROIT—Glenn O. Pippert has been named central region merchandise manager for the Bendix radio division of Bendix Aviation Corp. Mr. Pippert was formerly with the McAlpin Co. in Cincinnati. He has also served with Western Electric and Frigidaire Division of General Motors.

## Buffalo Forge Quarter Net Is \$247,778

BUFFALO — First quarter net profit of \$247,778, reported by Buffalo Forge Co. and subsidiaries after federal income and excess profits taxes and provisions for renegotiation is off slightly from the \$278,454 reported for the same period last year.

Earnings this quarter are equal to 76 cents a share, compared to 86 cents for the first quarter of 1944. Renegotiation for 1944 has not been completed, but the company is providing for renegotiation on the basis of completed 1943 proceedings.

## Vilter Names Larry Fischer To Cincinnati District

CINCINNATI — L. H. (Larry) Fischer has been appointed Cincinnati district engineer for The Vilter Mfg. Co., pioneer manufacturer of refrigeration and air conditioning equipment, it was announced by W. L. Nahin, general sales manager.

Mr. Fischer will be in charge of the Vilter branch office in the Ingalls building. His territory will include the southern half of Ohio, the state of Kentucky, and parts of West Virginia and Indiana.

**Necessary**  
on multiple  
refrigeration  
systems and  
where close  
control is  
wanted on  
individual units

**Wide Range of  
Adjustment**  
...from 15 inch  
vacuum up to  
55 lbs. gauge

**Close  
Temperature  
Control**  
valve is  
responsive to  
pressure  
changes of  
1/10 lb.

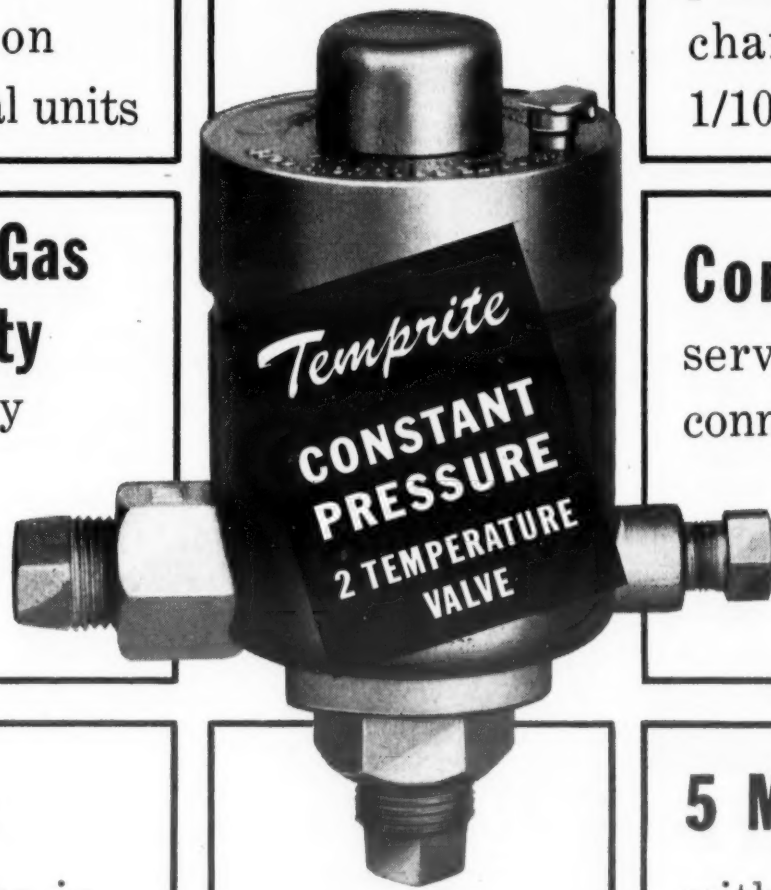
**Large Gas  
Capacity**  
with very  
low  
pressure  
drop

**Quality**  
Temprite is  
small, rugged  
in construction  
and extremely  
sensitive in  
operation

**Available**  
from stock  
on orders  
rated AA-5  
or better

**Convenient**  
service gauge  
connections for  
easy, ac-  
curate ad-  
justment

**5 Models**  
with capacity  
ranging from  
4000 BTU's per  
hour up to  
250,000 BTU's  
per hour



## TEMPRITE PRODUCTS CORP.

Originators of Instantaneous



Liquid Cooling Devices

43 PIQUETTE AVENUE

DETROIT, MICHIGAN



**PURO** ELECTRIC WATER COOLERS

BRANCHES IN PRINCIPAL CITIES  
MAIN OFFICE  
440 LAFAYETTE ST.  
New York 3, N. Y.

**PURO FILTER CORP.**  
OF AMERICA  
DRINKING WATER SPECIALISTS FOR 40 YEARS.



**NIAGARA**  
"NO-FROST" METHOD WITH SPRAY COOLERS

... gives always full capacity because there is no interruption for defrosting at sub-zero temperatures; protects quality in foods.

**NIAGARA BLOWER COMPANY**  
25 Years of Service in Air Engineering  
Dept. AG, 8 E. 48th St., New York 17, N. Y.

**Refrigeration Engineer**

Must have technical and practical knowledge of refrigeration and manufacturing. Plant located in Ohio. Address all applications to

Box 1712  
Air Conditioning & Refrigeration News

**SPECIFY...**

DRYERS THAT BEAR THIS LABEL

**CHARGED DAVISON'S SILICA GEL**

WITH

—the label that is your guarantee of maximum performance and satisfaction. Your jobber stocks it—for refilling and in factory charged dryers.

**DISTRIBUTION AVAILABLE**

Large East Coast Jobber wants line of fixtures, walk-in boxes, reach-in cabinets, cases, freezers, etc., for resale to independent service men. Box 1713 Air Conditioning & Refrigeration News.

Send for Bulletins on **Wagner** ELECTRIC MOTORS

**Wagner Electric Corporation**  
6471 Plymouth Ave., St. Louis 14, Mo., U. S. A.

**AUTOMATIC**  
Pressure, Temperature and Flow Controls

Write for Catalog 52

**GENERAL CONTROLS**  
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Branches: Boston - New York  
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**REFRIGERATION PRODUCTS**

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**REFRIGERATION PRODUCTS**

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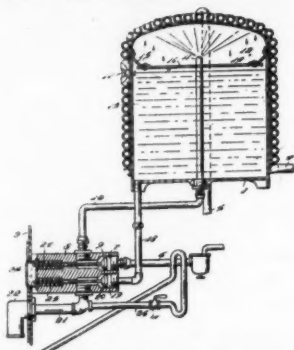
Write for New Catalogue

**LARKIN COILS, INC.**  
519 MEMORIAL DR., S. E., ATLANTA, GA.

## PATENTS

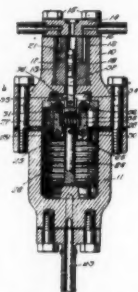
Weeks of April 3 & 10

2,370,390. **COOLING DEVICE.** Joseph de N. Berryman, Philadelphia, Pa. Application July 3, 1943, Serial No. 493,406. 5 Claims. (Cl. 62-141.)



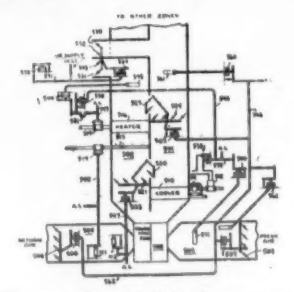
1. In a cooling device, a tank having a storage chamber for cooled liquid in its bottom portion and having an air chamber above the storage chamber, cooling means surrounding the side walls and the top wall of the tank, means to spray liquid into the air chamber against the inner wall of the top of the tank, and a discharge pipe from the tank.

2,373,684. **REFRIGERATOR VALVE.** Joseph N. Roth, Belding, Mich., assignor, by mesne assignments, to Gibson Refrigerator Co., Greenville, Mich., a corporation of Michigan. Application Sept. 4, 1941, Serial No. 409,576. 1 Claim. (Cl. 251-76.)



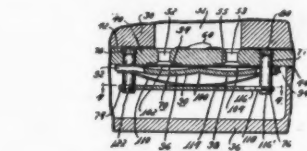
A valve of the character described for controlling a plurality of fluid flow paths in a continuous absorption refrigeration system, including: a sleeve member with a central bore having ports in its walls in a plurality of spaced planes transverse to its axis and longitudinal passages in said walls communicating with said ports, all of said passages opening at one end of said sleeve member; a very closely fitted valve piston reciprocable in the bore of the sleeve member to control flow through said ports; and means for supporting the sleeve member and for providing all fluid connections to the sleeve member at the ends thereof, comprising end members clamping the sleeve member therebetween, all sealing being effected at said one end of the sleeve member, the bore opening at the other end and providing a flow path, and one of the end members being provided with a socket substantially equal in length to the sleeve member and adapted to receive the sleeve member in a sliding fit, whereby the sleeve member is readily separable from the remainder of the refrigeration system.

2,372,939. **AIR CONDITIONING SYSTEM.** William L. McGrath, Philadelphia, Pa., assignor to Minneapolis-Honeywell Regulator Co., Minneapolis, Minn., a corporation of Delaware. Application Dec. 6, 1941, Serial No. 421,867. 18 Claims. (Cl. 257-3.)



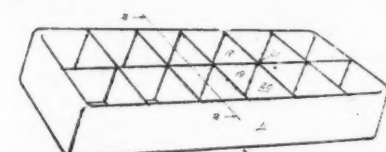
17. In an air conditioning system, in combination, a warm air duct, a cool air duct, each duct having an outlet, heating means in said warm air duct, means causing a flow of fresh and return air through said ducts and said outlets, means responsive to the temperature of the air in said cool air duct for causing some of the heated air from said warm air duct to flow into said cool air duct to prevent the temperature of the air in said cool air duct from dropping below a predetermined value, and means for regulating the proportion of fresh air to return air in response to said means responsive to the temperature of air in said cool air duct.

2,372,938. **REFRIGERATING APPARATUS.** Ralph W. Doeg, Detroit, Mich., assignor to Nash-Kelvinator Corp., Detroit, Mich., a corporation of Maryland. Application Nov. 12, 1942, Serial No. 465,321. 3 Claims. (Cl. 230-228.)



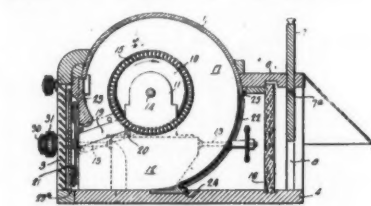
1. In a compressor, the combination with means providing a compression chamber, said means having a plurality of outlet ports communicating with the interior of said chamber, a thin resilient closure plate covering said outlet ports exteriorly of said means, and a relatively thick retaining plate engaging said closure plate on opposite sides of said outlet ports and having arcuate portions intermediate the points of engagement, said retaining plate being releasably held against said closure plate at the several points of engagement for dividing said closure plate into a plurality of independently operating valves for said outlet ports.

2,373,251. **FREEZING TRAY WITH DRAINAGE TOP.** Logan L. Mallard, Norfolk, Va. Application Dec. 4, 1941, Serial No. 421,647. 3 Claims. (Cl. 62-108.5.)



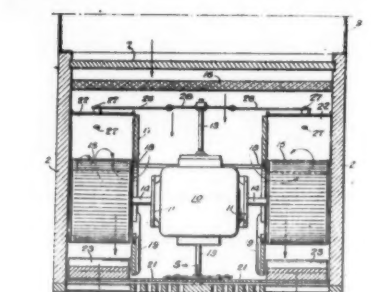
3. An ice tray comprising side and end walls defining a main compartment, partitions extending transversely and longitudinally of said main compartment and dividing the latter into a plurality of individual grid compartments, said partitions at their upper edges being formed by peaked walls having rounded contours arranged to drain outwardly towards the sides and ends of the tray, said main compartment having its bottom wall spaced from the bottom walls of the individual grid compartments to provide an expansion chamber adapted to contain an expansible gas to effect automatic dislodgment of ice cubes when the tray is removed from a freezing chamber and exposed to room or atmospheric temperature.

2,373,496. **VENTILATOR.** Henry T. Paiste, Jr., Villanova, Pa., assignor to Philco Radio & Television Corp., Philadelphia, Pa., a corporation of Delaware. Application Sept. 8, 1941, Serial No. 410,067. 6 Claims. (Cl. 98-94.)



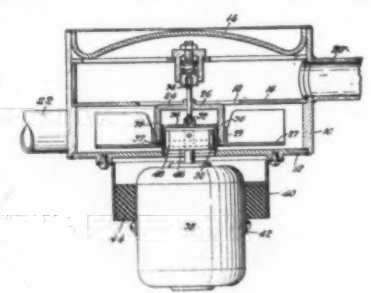
1. In a ventilator, a casing having air ingress and egress openings therein, air-propelling means within said casing, a plurality of adjustable dampers for controlling the flow of air through said openings, and actuating means for the respective dampers including a pair of concentric control elements each operable by a separate manual control member, said members being constructed and arranged to enable simultaneous or individual adjustment of said dampers.

2,373,497. **VENTILATOR.** Henry T. Paiste, Jr., Villanova, Pa., assignor to Philco Radio & Television Corp., Philadelphia, Pa., a corporation of Delaware. Original application Sept. 8, 1941, Serial No. 410,067. Divided and this application Oct. 3, 1942, Serial No. 460,671. 4 Claims. (Cl. 230-42.)



1. In a ventilator having a casing, a unitary partition providing separate chambers in said casing, one of said chambers being adapted to serve as a motor housing and having motor mounting means arranged therein, and the other of said chambers being adapted to serve as a housing for a blower actuated by the motor, said partition having formed therein an aperture to accommodate a driving connection between the motor and the blower, said casing being provided with an aperture to afford access to both of said chambers, and said partition further having a slideaway formed therein leading from an edge thereof into the partition aperture, whereby the ventilator may be readily assembled by introducing the motor and its associated blower through the said casing access aperture, passing the driving connection up through said slideaway, and fixing the motor to said mounting means.

2,373,609. **REFRIGERATION DRIVE.** Maurice D. Stahl, North Canton, Ohio, assignor to The Hoover Co., North

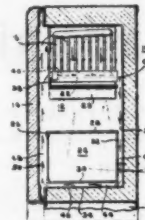


Canton, Ohio, a corporation of Ohio. Application Oct. 21, 1943, Serial No. 507,095. 3 Claims. (Cl. 172-284.)

1. In combination, a hermetically sealed casing, a cup-shaped member of non-magnetic stainless steel extending into said casing and being welded thereto, a permanent magnet driver rotatably mounted within said cup-shaped member, a magnetic follower of highly magnetic material rotatably mounted within said casing and having its poles arranged about the outer periphery of said cup-shaped member and a loop having high hysteresis characteristics connecting the poles of said follower.

2,373,618. **REFRIGERATION APPARATUS.** Raymond E. Tobey, Springfield, Mass., assignor to Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa., a corporation of Pennsylvania. Application Nov. 30, 1943, Serial No. 512,349. 6 Claims. (Cl. 62-89.)

1. A refrigerator having a food-storage compartment, an evaporator in the upper portion of said compartment, a high humidity compartment positioned in the



lower portion of said food-storage compartment in spaced relation to the back bottom, and front walls thereof, whereby an air circulating passage is formed extending along the back, bottom, and front of said high humidity compartment and a trough disposed below, and extending from the front to the rear of said evaporator, said trough including a bottom wall and upwardly extending side walls, whereby air, cooled by contact with said evaporator, flows downwardly into said trough, and from the rear end of said trough, along the back wall of said food compartment into said circulating passage.

## CLASSIFIED ADVERTISING

RATES for "Positions Wanted" \$2.50 per insertion. Limit 50 words.  
RATES for all other classifications \$5.00 per insertion. Limit 50 words.  
Advertisements set in usual classified style. Box addresses count as five words. Other addresses by actual word count.  
PAYMENT in advance is required for advertising in this column.

### POSITIONS AVAILABLE

**REFRIGERATION** and air conditioning engineer. Splendid opportunity. THE BIMEI CO., 305 Walnut St., Cincinnati, Ohio.

**REFRIGERATION ENGINEER** having qualifications for research, development, designing, and improvement of our present line, also new products for postwar. At present we manufacture soda fountains, refrigerated food and beverage equipment, etc. Established 1888. Usually good position. Unequaled opportunities. Reply THE FISCHMAN CO., 10th St. and Allegheny Ave., Philadelphia 33, Pa.

**DRAFTSMAN** and engineer for heating, ventilation, and air conditioning. KROESCHELL ENGINEERING CO., 215 West Ontario St., Chicago.

**SAN DIEGO, California.** Wright Refrigeration Service requires first class service men at \$1.25 per hour with time and half over 40 hours per week. Steady work, lots of overtime, and the best climate in America. WRIGHT REFRIGERATION SERVICE, 1337 India St., San Diego, Calif.

**SALES MANAGER.** Nationally known automatic control manufacturer has opening for sales manager of refrigeration control division. Must have refrigeration engineering background. State full details, education, work background, and salary first letter. Interview may be arranged. Box 1693, Air Conditioning & Refrigeration News.

**OPPORTUNITY** of a life time for an experienced man to establish and manage a refrigeration and air conditioning supplies department in Texas for a large, well known company. Write full details of your background, giving seven references in the industry. Box 1704, Air Conditioning & Refrigeration News.

**SALESMEN:** Refrigeration parts supply jobbing house; New York City area; splendid opportunity. Box 1705, Air Conditioning & Refrigeration News.

**WANTED:** Draftsman with experience in Fined Tubing, Heating and Cooling, Coils, Condensers. Must understand heat transfer problems. This is a permanent position. Box 1715, Air Conditioning & Refrigeration News.

**REFRIGERATION SERVICE** man. Industrial installation experience. Prefer married man 35-40. Salary. Some travel. Excellent postwar security in a small, aggressive organization located in mid-west. Box 1708, Air Conditioning & Refrigeration News.

**REFRIGERATION ENGINEER.** Industrious and reliable, to take charge of erection and service department. Permanent position and fine opportunity with a well established and expanding York distributorship. Address AIR CONDITIONING & REFRIGERATION, 27 E. Second St., Dayton 2, Ohio.

**LARGE DISTRIBUTOR-contractor** needs sales manager who can build a hard hitting sales organization. Good knowledge of ammonia and "Freon" refrigeration and air conditioning required. Merchandising and contracting experience helpful. Midwest area covering nearly 2,000,000 population. Give complete information regarding age, experience, education, and income expected. Box 1710, Air Conditioning & Refrigeration News.

**LEADING MANUFACTURER** of air conditioning and refrigeration equipment requires the services of a field representative for Middle-West with experience franchising, organizing, and helping distributors. Knowledge of "Freon" and ammonia preferred. In your reply, please outline: age, education, full transcript of experience and remuneration expected. Box 1709, Air Conditioning & Refrigeration News.

**SEVERAL** excellent openings for automatic washer, domestic ironer, and dryer engineers for new plant to be opened in California. Our own organization knows of this advertisement. In first letter please give full details of experience and salary requirements. Box 1711, Air Conditioning & Refrigeration News.

**OUR REFRIGERATION** Service Men earn \$5,000-\$7,500 annually. Nationally recognized as foremost refrigeration service and installation organization in the country. Sixteen years in service

business—Chicago and Detroit. Permanent positions to capable service men. Executive advancement possibilities in postwar expansion program. REFRIGERATION MAINTENANCE CORP., 321 E. Grand Ave., Chicago.

**AIR CONDITIONING** maintenance mechanic, experienced on self-contained units ranging from 1 to 20 tons. TANGER CONSTRUCTION CORP., 140 Broadway, New York, N. Y.

### EQUIPMENT FOR SALE

**500 RE-MANUFACTURED** Frigidaire and Kelvinator 1/2, 3/4, 1, and 1 1/2 H.P. air cooled condensing units with new condensers and new single phase 110/220 60 cycle motors 2 to 12 holes ice cream cabinets. Write for list and prices. EDISON COOLING CORP., 310 East 149 St., New York 51, N. Y.

**USED** double duty porcelain display cases, coils and platters included, good condition no priority required. Used 1/2-hp. Kelvinator and Frigidaire condensing unit \$100. New General Electric equipped milk coolers, 4-can \$220, 6-can \$260. Porcelain reach-ins, walk-ins. Frosted food cabinets. JORDON REFRIGERATOR CO., 235 N. Broad St., Philadelphia 7, Pa.

**FOR SALE:** Isobutane refrigerant. Price small lots—\$1 per pound; in lots of 10 pounds, 65 cents per pound. Free-O, perfect refrigerant for Frigidaire Metamiser—price in small lots \$1.50 per pound, lots of 100 pounds \$1 per pound. See your cylinders to STANDARD REFRIGERATION CO., McKees Rocks, Pa.

**FOR SALE:** Large stock of refrigeration parts, new condensing units, tubing, motors, valves, blower coils, control gauges, etc. No priority necessary. Will sell entire lot below cost. Lot \$150. Write or wire for inventory list. Box 1716, Air Conditioning & Refrigeration News.

**FOR SALE:** Two 10 x 10 York "Freon" compressors, excellent condition. No motors. Will take 40 or 50-hp. motors. STANDARD BODY & EQUIPMENT CORP., 2142 Dean St., Brooklyn 16, N. Y. MAIN 2-1000.

### POSITIONS WANTED

**SALES EXECUTIVE.** Capable, energetic, progressive, producer. National experience. Background 17 years sales experience, four years specialty distributor, four years production. Experienced domestic and commercial refrigerators, frozen food units, air conditioning, electric and radio equipment. Seek position of responsibility, organizing, and developing new business. Box 1706, Air Conditioning & Refrigeration News.

**REFRIGERATION ENGINEER** desires connection where abilities can be used to best advantage. Eighteen years refrigeration experience; seven years as service men; four years teaching refrigeration and air conditioning; six years as application engineer for manufacturer of commercial coils and evaporators. Registered Professional Engineer. Box 1717, Air Conditioning & Refrigeration News.

### FRANCHISES WANTED

**DOMESTIC APPLIANCES:** Leading Southern distributor of commercial refrigeration, successfully established, plans to broaden operation with line of domestic refrigerators and major appliances. Interested in wholesale distributorship for state of North Carolina. For further details write S. G. CONRAD, 1608 Madison Ave., Greensboro, N. C.

### BUSINESS OPPORTUNITIES

**LONG ESTABLISHED** contracting Commercial Refrigeration and Air Conditioning business in Los Angeles, distributor for reputable national refrigeration manufacturer, will sell to aggressive organization. \$35,000 required. Box 1714, Air Conditioning & Refrigeration News.

### EQUIPMENT WANTED

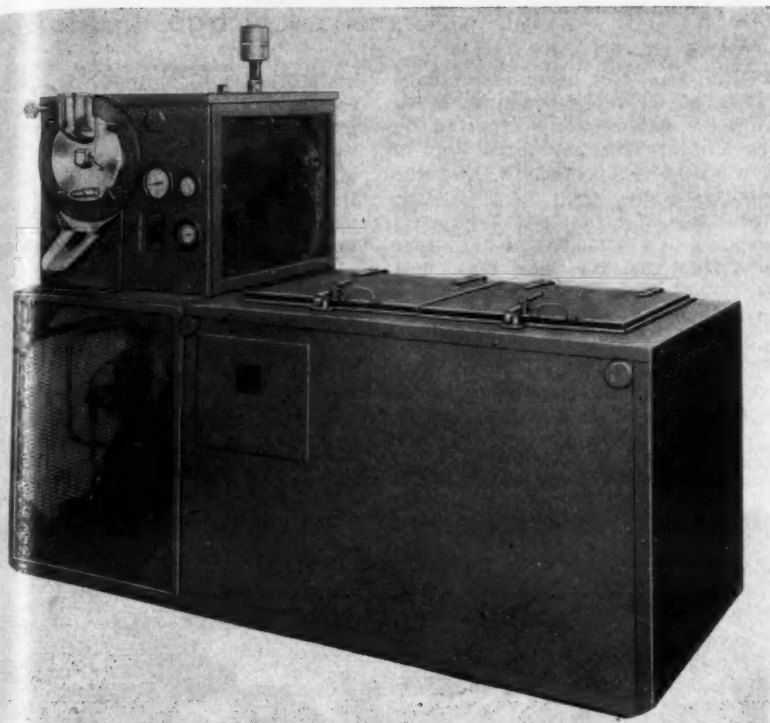
**WE NEED** immediately a Frick-Universal Model S (15 ton) complete compression assembly. Can use the complete 15-ton condensing unit. Wire or write J. WALSH & CO., INC., Box 1717, Houston, Tex.

**WHAT HAVE YOU?** We buy any quantity of surplus refrigeration parts, tools and equipment. Such as new and used units, compressors, motors, control valves, strainers, coils, seals, cube trays, defrost pans, refrigerator hardware, etc. Complete shops with equipment. WOOD SEAL, 293 E. 149th St., New York 51, N. Y.

**WANTED** to purchase: one air conditioning unit to cool room approximately 3,000 cubic feet. Price and particulars Chief Engineer, BRITISH BROADCASTING CORP., 630 Fifth Ave., New York 20, N. Y.



## More Ice Cream for Soldiers Overseas



Constructed almost entirely of aluminum, the 2½-gallon ice cream freezer and 40-gallon holding cabinet was developed by the Emery Thompson Machine & Supply Co. for the Army Quartermaster Corps. It weighs 1,300 pounds, light enough to be carried in transport planes or certain types of gliders.

## Aluminum Ice Cream Freezer &amp; Cabinet Can Be Flown to Front Line Troops

NEW YORK CITY—Constructed chiefly of aluminum, a portable ice cream freezer and holding cabinet will be produced by the Emery Thompson Machine & Supply Co. under a contract just received from the Army, announces J. Burr Jenkins, sales manager.

Weighing but 1,300 lbs., the unit can be carried in regular transport planes or in certain types of gliders. This will permit its use near the front lines and in other areas where transportation difficulties have pro-

hibited facilities for producing ice cream, it was said.

The "ice cream plant portable, 2½-40 gallon," as the Army designates it, has a 2½ gallon freezer and a 40 gallon hardening cabinet, with a capacity of serving 1,000 men daily. Entire frame is of aluminum, and the insulating material is said to be of a new type combining low weight and high efficiency.

The unit is equipped with both a gasoline engine and electric motor. Where electricity is not available, the gasoline engine is used. A few minor adjustments permit a quick switch-over from gasoline to electric power, it is claimed.

To permit flexibility of operation, the unit has been designed to function at any temperature up to 120° F. Only water and dehydrated ice cream mix are needed to produce ice cream.

In conjunction with the Army Quartermaster Corps, the Emery Thompson company had spent several months on the design and development of the plant, which combines many features that are completely new to machines for freezing and hardening ice cream, according to Mr. Jenkins.

## 600 Repairmen Attend T. W. Binder Party

NEWARK, N. J.—More than 600 refrigeration repairmen from all parts of New Jersey attended the big party given in their honor at the Continental auditorium here recently by the T. W. Binder Co., refrigeration and air conditioning parts jobber here, reports Theodore Yecies of the firm.

## Glauber to Celebrate 50th Anniversary

NEW YORK CITY—Fiftieth anniversary of the founding of Sam S. Glauber, Inc., distributor and jobber of appliances, air conditioning, plumbing, heating, construction, and marine supplies, will be celebrated May 10.

Mr. Glauber started in a basement shop at 101 E. 4th St. here in 1895, selling candles, plumbers' washers, etc. The operations gradually expanded to include plumbing and heating supplies, and when Mr. Glauber died in 1917 after 10 years' illness, his widow, Emily G., carried on the business, which she still heads.

In 1923, fire destroyed the building in which the firm was then located, 242 E. 79th St. A large building was erected at 515-529 E. 79th St. with warehouse facilities adjoining. Since then the firm has established branches in Yonkers, N. Y., and Stamford, Conn.

Officers of the firm are Emily S. Goldsmith, president and treasurer; Milton M. Goldsmith, vice president; and Robert Smolka, secretary.

## Stevick Electric Named Westinghouse Dealer

RALEIGH, N. C.—Stevick Electric Co., managed by H. Blair Stevick, has been named Westinghouse Electric & Mfg. Co. appliance dealership here. Recently organized, the firm now occupies temporary quarters at 123 N. Salisbury St.

## Kerotest Wins 5th Star For Maritime Pennant

PITTSBURGH—Kerotest Mfg. Co. is one of the fortunate companies to receive the fifth and final gold star for its Maritime "M" Pennant in recognition of continuous outstanding production of essential valves and fittings for the U. S. Maritime Commission.

According to Admiral H. L. Vickery, vice chairman of the Commission, this recognition concludes all "M" awards for the duration, as the department is now being discontinued.

Only a very few companies in the United States were recognized in these final awards by the Commission.

## Cunningham Heads Sales For Miami Outlets

MIAMI, Fla.—D. C. Cunningham, for the past five years southern divisional sales manager for Easy Washing Machine Co. with headquarters in Atlanta, will become general sales manager of Major Appliances, Inc. here June 1, announces W. D. Rowlands, president.

For many years Mr. Cunningham operated one of the first major appliance distributorships and dealerships in Syracuse, N. Y. Later he was a sales executive for Gainaday Electric Co. of Pittsburgh, and for 13 years served as divisional sales chief in Syracuse for the Easy company.

**HUBBELL**  
**YODER**  
REFRIGERATION PLATES

**THE HUBBELL EVAPORATOR PLATE**  
Every square inch of surface is prime heat pick-up.

For Frozen Food Lockers, Deep Freeze Cabinets, Milk Coolers, Fruit and Vegetable Counters, etc. Write for complete information. It will pay you.

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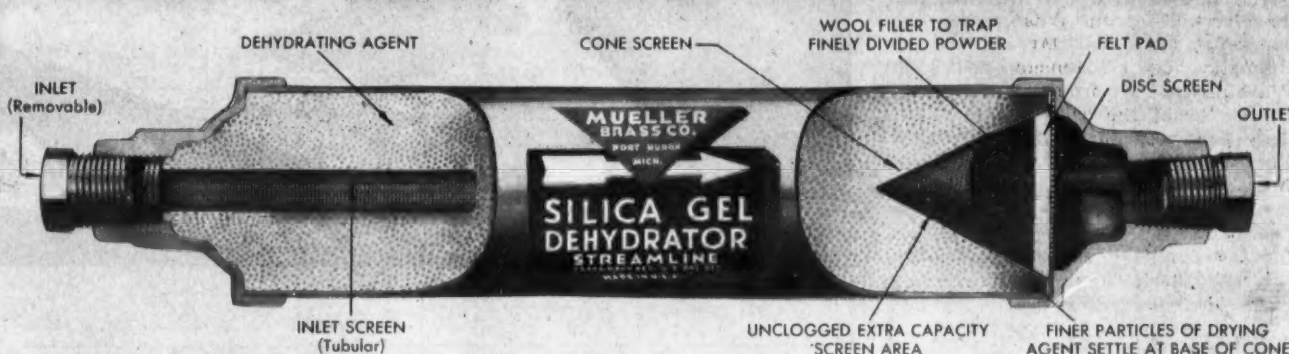
Refrigeration or Vending Machine Engineer to set up and operate Parts and Service Department on a national basis. Write pertinent facts about yourself, and a personal interview will be arranged.

Address: Russ Odor—The Seven Up Company, 1221 Locust Street, St. Louis, Missouri.

**HEAT TRANSFER EQUIPMENT**

**MARLO**  
COIL COMPANY  
SAINT LOUIS, MISSOURI

## Here is the New MUELLER BRASS CO. REFILLABLE DEHYDRATOR



## Readily Removable Inlet For Easy Refilling!

When recharging our new Dehydrator, simply remove the inlet plug—back out the slotted inlet screen tube—shake out the exhausted agent, then replace with new.

In addition to this convenient feature (see illustration above) Mueller Brass Co. Filters and Driers are provided with the CONE SCREEN OUTLET, a specially designed filtering element that adds immeasurably to the life and efficiency of Driers and Filters.

Almost all crystalline dehydrating agents are subject to a certain amount of abrasion while a dehydrator is in service. Small portions of the dehydrating agent break down into very fine powder and crystals. Unless a well-designed filtering element is incorporated in a dehydrator, these fine crystals and powder have a tendency to clog the outlet filter, resulting in restriction to the flow of refrigerant.

With the MBCO. CONE SCREEN OUTLET, such finer crystals and powder are forced to the base of the cone, leaving the center and tip of the screen open to the free flow of refrigerant.

In addition, the cone screen is filled with pure wool which traps such particles that are sufficiently fine to pass through the screen mesh.

Particular attention has been paid to screen areas in Mueller Brass Co. Filters and Dehydrators, so that each size permits efficient passage to the maximum refrigerant volume that is used in a particular size refrigerant line.

**MUELLER BRASS CO. PORT HURON, MICH.**

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## WANTED—By a Centrally Located Electric Light and Power Company

Men to fill postwar positions in our Sales Organization.

We need:

Assistants to Division Sales Managers

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Plus Several Top Notch Salesmen,

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Age limit 25 to 40. College training desirable. In first letter give complete information about training, experience, names of former employers, how long employed by each, who to write for reference, age, number of dependents, salary expected, how soon available. Send picture. Box 1699, Air Conditioning & Refrigeration News.



## Deferments---

(Concluded from Page 1, Column 4)  
may certify two men on lists containing four through seven names. "This authority is retroactive and will enable you to reconsider and certify meritorious cases which you were forced to deny or hold because of previous overall percentage limitations. It does not, however, authorize additional certifications for lists of three or less names on which you have already certified one man. On lists with four through seven names, on which you have certified only one name, you may under this authority certify one additional name."

It is emphasized by WPB officials that the District WPB manager "may" certify certain proportions of men, and in no case is this mandatory. Furthermore, it is pointed out that deferments beyond a certain proportion of the names on the "small list" will "automatically be screened in Washington," rather than "automatically be certified in Washington," as stated previously.

Emphasis is placed on the fact that in all cases, regardless of the original certifying point (field office or in Washington), final certification to the Local Selective Service Board is made by the District manager of WPB or his designee. This means the district manager may over-rule Washington.

"Irreplaceability" of the individual, with the overall situation as regards refrigeration equipment repair in the community a major factor in the consideration, is what the district or local WPB manager is likely to base his decision upon.

Webster Powell, Manpower Officer, Office of Civilian Requirements, declares that in no case should the local WPB office be requested to call him in Washington, as suggested in the original telegram.

If refrigerator repair companies wish to ascertain the status of their case, said Mr. Powell, they should first contact the WPB District manager, or the man appointed by him to handle Selective Service matters, in the WPB office. If the local office informs him that the case has not been certified and that no word has been received from Washington, the company may call Mr. Powell at Republic 7500, Extension 74108 in Washington, in order to ascertain the status of the case.

If, however, the District manager has already received certification from Washington, and has decided upon a reinvestigation of the facts not to certify, the only recourse is for the company to appeal through the usual local channels.

## CRMA Plans---

(Concluded from Page 1, Column 3)  
Scherer-Gillett Co.; John W. Hart, McCray Refrigerator Co.; W. J. Stelpflug, Hussmann-Ligonier Co.; and Ernest L. Stultz, Viking Refrigerators, Inc.

One highlight of the meeting was an informal discussion of WPB refrigeration activities, led by A. Gordon Wootton, chief of the Refrigeration and Air Conditioning Section. Mr. Wootton reviewed recent decisions affecting the production of civilian equipment and gave an analysis of the newly revised Order P-126 and its effect on the condensing unit situation.

His talk was followed by a ques-

tion-and-answer period in which numerous problems of procedure in working under the various regulations were cleared up.

Part of the day preceding the meeting was taken up by the initial organization meeting of the newly formed OPA Advisory Committee for the industry, consisting of 12 members selected by OPA. The committee's deliberations were supervised by Fred Schwartz, Carl Windel, and Milton Rollin, representing the OPA Building Materials Branch in Washington.

J. H. Coolidge of Scherer-Gillett Co. was elected permanent chairman of the committee, with E. L. Stultz of Viking Refrigerators, Inc. as vice chairman, and J. D. Harris, The Warren Co., Atlanta, secretary-treasurer.

## York Nets \$623,700 In 6-Month Period

YORK, Pa.—Net profit after taxes of \$623,700 for the six months ended March 31 was recently reported by York Corp. This compares with a net of \$373,570 reported for the same period last year.

Total sales for the 1945 half years amounted to \$20,755,607, a gain over the \$17,337,295 for the 1944 first half. Net profit before income and excess profits taxes and before contingency charge was \$2,696,700, compared with \$1,541,570 in 1944.

Reserve for estimated taxes for the first half of 1945 is \$1,969,000, while the 1944 half-year reserve for taxes was \$1,168,000.

## Frazee Heads Training At Chicago Institute

CHICAGO — Francis B. Frazee, formerly application and service engineer for Brummett & Co. of Jackson, Miss., has been named director of refrigerating training at the Industrial Trades Institute here to handle a program covering installation and service on heating, ventilating, and air conditioning equipment in addition to commercial and domestic refrigeration.

A member of the American Society of Refrigerating Engineers and the Refrigeration Service Engineers Society, Mr. Frazee has spent the past five years in the South, coming from the state of New York.



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